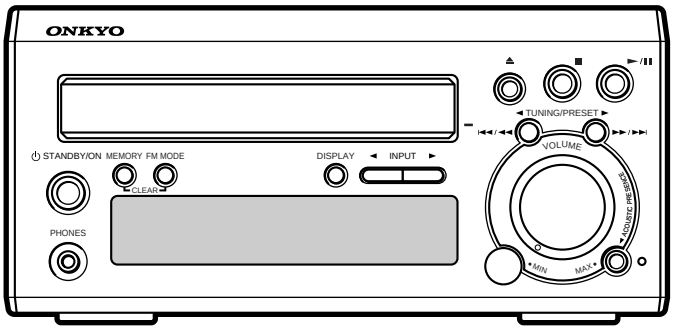
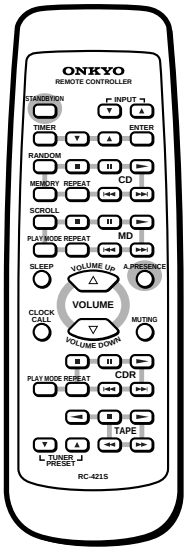
Ref. No. 3723
062002

ONKYO SERVICE MANUAL

CD RECEIVER
MODEL CR-305TX





RC-421S

Silver model

UDD,UDT	120V AC, 60Hz
UGT,UGR,	220-230V AC, 50Hz
UPP	230-240V AC, 50Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

ONKYO®
IMAGINATIVE SIGHT & SOUND

SERVICE PROCEDURES-1

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

SERVICE WARNING : DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICKUP BLOCK.

Laser Diode Properties

Material: GaAS/GaAlAs
Wavelength: 780nm
Laser output: max. 0.5mW*
Emission Duration: continuous
*This output is the value measured at a distance about 1.8mm from the objective lens surface on the Optical Pickup Block.

LASER WARNING LABEL

The labels shown below are affixed.

1. Warning label

DANGER-INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK FAILED OR DEFEATED. AVOID DIRECT EXPOSURE TO BEAM.
CAUTION-HAZARDOUS LASER AND ELECTROMAGNETIC RADIATION WHEN OPEN AND INTERLOCK DEFEATED.
ATTENTION-RAYONNEMENT LASER ET ELECTROMAGNETIQUE DANGEREUX SI OUVERT AVEC L'ECLENCHEMENT DE SECURITE ANNULE.
29362285

DANGER:
INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK FAILED OR DEFEATED. AVOID DIRECT EXPOSURE TO BEAM.

CAUTION:
HAZARDOUS LASER AND ELECTROMAGNETIC RADIATION WHEN OPEN AND INTERLOCK DEFEATED.

ATTENTION:
RAYONNEMENT LASER ET ELECTROMAGNETIQUE DANGEREUX SI OUVERT AVEC L'ECLENCHEMENT DE SECURITE ANNULE.

2. Class 1 label

LUOKAN 1
LASERLAITE

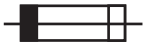
KLASS 1
LASER APPARAT

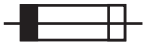
Printed on rear panel

SERVICE PROCEDURES-2

SERVICE PROCEDURES

1. Replacing the fuses


This symbol located near the fuse indicates that the fuse used is show operating type, For continued protection against fire hazard, replace with same type fuse , For fuse rating, refer to the marking adjest to the symbol.


Ce symbole indique que le fusible utilise est e lent. Pour une protection permanente, n'utiliser que des fusibles de meme type. Ce demier est indique la qu le present symbol est apposre.

REF.NO.	PART NO.	DESCRIPTION
F901	252157 ⚠	1.25A-UL/T-237, Fuse <DD, DT>
	252083 ⚠	0.4A-SE-EAW, FUSE <PP,GR, GT>

NOTE : <DD, DT> : 120 V model only
<PP,GR, GT> : 230 V model only

2. To initialize the unit

1. Press and hold the MEMORY button and press the DISPLAY button.
   All segments light up.
2. Press the STANDBY/ON button.
   When " CLEAR " appears on the display, the preset memory and each mode stored in the memory are initialized and will return to the factory setting.

3. Safety-check out

(Only U.S.A. model)
After correcting the original service problem perform the follwing safety check before releasing the set to the customer
Connect the insulating-resistance tester between the plug of power supply cord and terminal GND on the back panel.
Specifications: More than 10Mohm at 500V

4. Memory Preservation

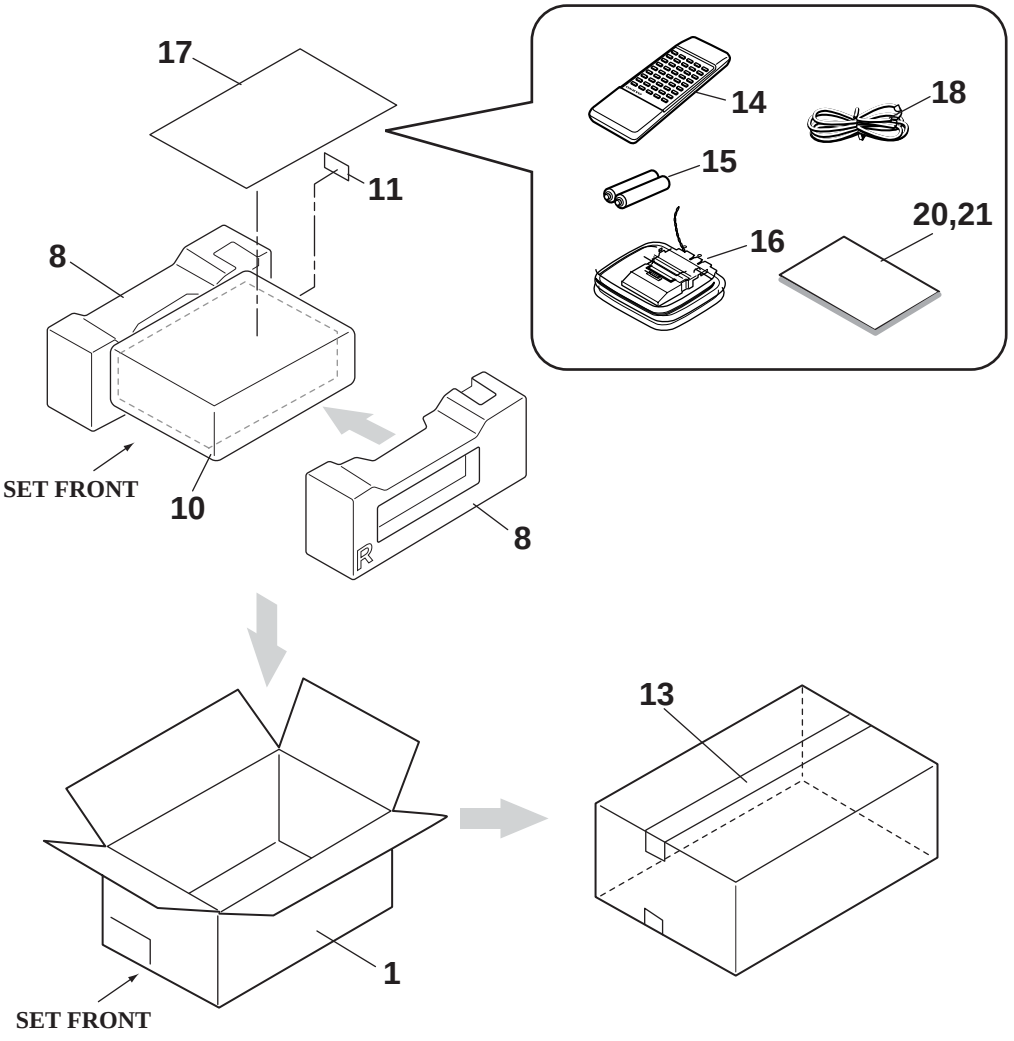
This unit does not require memory preservation batteries. A built-in memory power back-up system preserves the contents of the memory during power failures and even when the unit is un-plugged.
The unit must be plugged in order to charge the back-up system.
The memory preservation period after the unit has been unplugged varies depending on climate and placement of the unit.
On the average, memory contents are protected over a period of a few weeks after the last time the unit has been unplugged.
This period is shorter when the unit is exposed to a highly humid cli-mate.

5. Changing the AM band step

With the exception of the worldwide models, a tuning step selector switch is not provided.
When you change the band step, change the parts as shown below.

	To 10kHz	To 9kHz
R705	3.3k	10k
R706	5.6k	open

PACKING VIEW



PARTS LIST

REF.NO.	PART NO.	DESCRIPTION	REMARKS
1	6007210450000	BOX GIFT CR-305TX	
8	6230210504000	CUSHION SNOW EPS	
10	29095835	Sheet 0.515 x 650 x 550	
11	29110149	Tape	
13	29110141	PP Tape	
14	24140421	RC-421S, Remote controller	
15	3010054	Battery, UM-3	
16	232140	NMA-3057, AM Loop antenna	
17	29100097-1A	Poly bag 350 x 250	
18	292142	FM antenna	<DD>
	292116	FM antenna	<PP>
20	5707210600000	INSTRUCTION MANUAL E	
	5707210600010	INSTRUCTION MANUAL FSI	<PP>
	5707210600020	INSTRUCTION MANUAL GDSW	<PP>
21	26365090	Warranty card	<DD>

[NOTE]

<DD> : USA & Canadian model only

<PP> : European Model only

PRINTED CIRCUIT BOARD PARTS LIST-1

U1:AUDIO PC BOARD (NAAF-6874)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q401	22241072	TC9273N-007
Q402	22240981R2	TC9162AF
Q403,Q404	22241383R2	NJM4565M-D
	Transistors	
Q405, Q406	2215410R2	RN1441
Q409, Q603	2214470R2	RN1402
Q501-Q504	2216156R2	2SC1622A-L
Q505-Q508	2213143R2	2SC2712-O
Q509-Q512	2211455 or	2SA1015-GR or
	2215975	KTA1266-GR
Q515-Q518	2211455 or	2SA1015-GR or
	2215975	KTA1266-GR
Q601	2213143R2	2SC2712-O
Q602	2214375R2	2SA1162-GR
	Diodes	
D491,D492	224491300R2	UDZ13B
D501-D504	223234R2	1SS352
D601	223234R2	1SS352
	Capacitors	
C409,C410	354742209	22uF, 16V, Elect.
C415-C418	371126834	0.068uF+/-5%, 50V, Plastic
C421,C422	371121534	0.015uF+/-5%, 50V, Plastic
C423,C424,C603	354780109	1uF, 50V, Elect.
C425,C426	371121544	0.15uF5+/-5%, 50V, Plastic
C429,C430	354742209	22uF, 16V, Elect.
C491,C492	354742219	220uF, 16V, Elect.
C493,C494	354741019	100uF, 16V, Elect.
C495,C496	354761019	100uF, 35V, Elect.
C501,C502	354741009	10uF, 16V, Elect.
C505,C506,C601	354744709	47uF, 16V, Elect.
C509-C510	354722219	220uF, 6.3V, Elect.
C515,C516	354741009	10uF, 16V, Elect.
	Resistors	
R427	5104333	N16RG100KBT25F, Volume
R491,R492	443625614	560ohm+/-5%, 1W, Metal oxide
R493,R494	443522204	22ohm+/-5%, 1/2W, Metal oxide
R495	443521024	1kohm+/-5%, 1/2W, Metal oxide
R496	443528214	820ohm+/-5%, 1/2W, Metal oxide
R519-R522	443523904	39ohm+/-5%, 1/2W, Metal oxide
R533,R534	443523304	33ohm+/-5%, 1/2W, Metal oxide
R535,R536	443523904	39ohm+/-5%, 1/2W, Metal oxide
	Jacks	
P400, P401	25045575	NPJ-4PDRW389
P402	25045581R0	HSJ1501-010010, RI Jack
	Sockets	
P403B	25051529	NSCT-18P1316
P404B	25051234	NSCT-9P1024
	Plug	
JL501A	25055631	NPLG-10P593

U2:POWER SUPPLY PC BOARD (NAPS-6878)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q901	222780125	78M12HF
Q903	222780565	78M56
	Transistors	
Q902	2211503 or	2SA950-O or
	2211504	2SA950-Y
Q904	2213640	DTC123JS
	Diodes	
D901	22380022F or	RBV402 or
	22380271F	D3SBA20
D902-D908	22380260 or	RL1N4003 or
	22380035	GP104003E
D909	224492700R2	UDZ27B
D910	224490510R2	UDZ5.1B
D911	223234R2	1SS352
	Capacitors	
C904,C905	354763329S	3300uF,35 V, Elect.
C907	354741009	10uF, 16V, Elect.
C909	354761019	100uF, 35V, Elect.
C913	354764709	47uF, 35V, Elect.
C914	3500173S	6800uF, 16V, Elect.
C918	354781019	100uF, 50V, Elect.
C920-C924	374722244	0.22uF+/-5%, 50V, Plastic
	Resistors	
R901	443622204	22ohm+/-5%, 1W, Metal oxide
R903,R913	453530224	2.2ohm+/-5%, 1/2W, Metal oxide
R907	453534794	0.47ohm+/-5%, 1/2W, Metal oxide
R908	443521024	1kohm+/-5%, 1/2W, Metal oxide
R911	443522704	27ohm+/-5%, 1/2W, Metal oxide
R912	431533355	⚠ 3.3Mohm+/-20%,1/2W, Solid <DD,DT>
	Relay	
RL901	25065607	NRL-2P5A-DC12-155 <DD,DT>
	25065598 or	NRL-2P3A-DC12-148 or
	25065597	NRL-2P8A-DC12-147 <PP,GR,GT,PT>
	Plug	
JL903B	25055624	NPLG-3P586
P901B	25055153	NPLG-9P137
P902	25055676	⚠ NPLG-2P632
	Socket	
JL504B	25050270	NSCT-6P98
	Fuse label	
F901A	29361919	T400MAL250V <PP,GR,GT,PT>
	Clamp	
P901C	27190608-1	UA-0 V0
	Heat sink	
Q903A	27160250	RAD-81
Q903B	82143010	3P+10FN(BC)

NOTE:
<DD> : USA and Canadian model only
<PP> : European model only
<DT> : Taiwanese model only
<GT> : Asian model only
<GR> : Chinese model only

NOTE : THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

PRINTED CIRCUIT BOARD PARTS LIST-2

U3:FRONT PC BOARD (NADIS-6879)

CIRCUIT NO.	PART NO.	DESCRIPTION
	FL Tube	
Q751	212141	10BT-167GK
	Remote sensor	
U751	241330	PIC-26043TE2
	Transistor	
Q782	2214490R2	RN1404
	LED	
D782	225381	SEL2210R-TP1
	Capacitor	
C752	353721019	100uF, 6.3V, Elect.
	Resistors	
R567,R568	443523314	330ohm+/-5%, 1/2W, Metal oxide
	Jack	
P553	25045396	LGT1516-0101, Head phone jack
	Sockets	
JL552B	25051089	NSCT-5P876
P701B	25052232	NSCT-36P2129
	Push switches	
S751- S762	25035699	NPS-111-S662
	Holder	
Q751A	4070210321000	FL Holder

U4:AMPLIFIER PC BOARD (NAAF-6880)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q551,Q552	2213284 or	2SC1740S-R or
	2215864	KTC3199-GR
Q553,Q554	2211653 or	2SC2235-O or
	2211654	2SC2235-Y
Q555-Q556	2211643 or	2SA965-O or
	2211644	2SA965-Y
	Capacitors	
C551,C552	355741009	10uF, 16V, Elect.
C553,C554	371124734	0.047uF+/-5%, 50V, Plastic
	Resistors	
R557,R558	443521014	100ohm+/-5%, 1/2W, Metal oxide
R559-R562	452732294F	0.22ohm+/-5%, 2W, Metal oxide
R563,R564	453530824	8.2ohm+/-5%, 1/2W, Metal oxide
	Sockets	
JL501B	25051094	NSCT-10P881
JL504A	25051110	NSCT-6P897
JL551A	25051088	NSCT-4P875

U5:SPEAKER PC BOARD (NAETC-6881)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Coils	
L551,L552	231176S	S-1.3C
	Resistors	
R565,R566	453530564	5.6ohm+/-5%, 1/2W, Metal oxide
	Sockets	
JL405A	25051087	NSCT-3P874 <DD>
JL551B	25051088	NSCT-4P875
JL552A	25055626	NPLG-5P588
	Terminal	
P551	25060299	NTM-4PDML230, Speaker

U6:DIGITAL OUTPUT PC BOARD (NAETC-6882)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Photo couplers	
U691	24120082	GP1FA550TZ
	Coil	
L691	231237K220R2	NCH-1477
	Capacitors	
C691	354741019	100uF, 16V, Elect.
	Plug	
JL405B	25055624	NPLG-3P586 <DD>
	Socket	
P405B	25051235	NSCT-10P1025
	Jack	
P406	25045567	NPJ-1PDBL382 <DD>
	25045575	NPJ-4PDRW389 <PP,DT,GR,GT,PT>

NOTE:
<DD> : USA and Canadian model only
<PP> : European model only
<DT> : Taiwanese model only
<GT> : Asian model only
<GR> : Chinese model only

NOTE : THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

PRINTED CIRCUIT BOARD PARTS LIST-3

U8:CD PC BOARD (NAAR-6875)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q101	22241499R3	CXA1992BR
Q102	22241247	LA6541D
Q103	22240239	TA7291S
Q180	22241302	BU1923 <PP>
Q301	22241500R3	CXD2589Q
Q701	22241502R3	MPD78045FGF-119-3B9
Q704	22240239	TA7291S
	Transistors	
Q110,Q112	2212853	2SB1068-K
Q111,Q703	2214490R2	RN1404
Q114	2211504	2SA950-Y
Q181,Q184	2214550R2	RN2404
Q182,Q183	2215410R2	RN1441
Q185,Q186	2215410R2	RN1441
Q191	2213143R2	2SC2712-O <PP>
Q702	2214540R2	RN2403
	Diodes	
D101,D703,D707	223234R2	1SS352
D701,D702,D704	22380284R2	1SR154-400
D705	224490560R2	UDZ5.6B, Zener
D791	224490510R2	UDZ5.1B, Zener
	Coils	
L101,L351	231237K100R2	NCH-1475
	Crystals	
X181	3010321	HC-49/U034.332MHz
X351	3010308	HC-49/U0316.9344M
X701	3010261	HC-49/U03 4.19M10P
	Capacitors	
C102,C129,C135	355721019	100uF, 6.3V, Elect.
C104,C105,C115	374721034	0.01uF+/-5%, 50V, Plastic
C106,C109	374724744	0.47uF+/-5%, 50V, Plastic
C107,C124,C133	374722224	2200pF+/-5%, 50V, Plastic
C108	374721024	1000pF+/-5%, 50V, Plastic
C110,C111,C113	374721044	0.1uF+/-5%, 50V, Plastic
C112	355780479	4.7uF, 50V, Elect.
C117,C794,C795	355763309	33uF, 35V, Elect.
C118,C191,C192	355780339	3.3uF, 50V, Elect.
C120	374723334	0.033uF+/-5%, 50V, Plastic
C121,C123	374721034	0.01uF+/-5%, 50V, Plastic
C125,C128 ,C352	374721034	0.01uF+/-5%, 50V, Plastic
C134	354724719	470uF, 6.3V, Elect.
C136,C145,C151	355721019	100uF, 6.3V, Elect.
C137	374722234	0.022uF+/-5%, 50V, Plastic
C139,C181,C708	355780229	2.2uF, 50V, Elect.
C180,C350,C712	355721019	100uF, 6.3V, Elect.
C185	355780229	2.2uF, 50V, Elect. <PP>
C333,C334	374726814	680pF+/-5%, 50V, Plastic
C335,C336	355762209	22uF, 35V, Elect.
C351	355784799	0.47uF, 50V, Elect.
C354	374724734	0.047uF+/-5%, 50V, Plastic
C355	374721524	1500pF+/-5%, 50V, Plastic
C703	3060010	NTC-20P09, Trimming (Clock adjust)
C710	354721019	100uF, 6.3V, Elect.
C711	3000078	DX-5R5L104, Super capacitor

CIRCUIT NO.	PARTS NO.	DESCRITION
	Resistor	
R123	5210263	N06HR20KBC, Trimming resister
	Sockets	
JL903A	25051087	NSCT-3P874
P351A	25052212	NSCT-16P2109
P701A	25052232	NSCT-36P2129
P778	25052211	NSCT-15P2108
P901A	2002391815	NSAS-18P0666
	Plugs	
P104	25055045	NPLG-4P33
P105	25055038	NPLG-2P29
P302A	25055149	NPLG-5P133
P303A	25055150	NPLG-6P134
P403A	25055807	NPLG-18P763
P404A	25055705	NPLG-9P661
P405A	25055706	NPLG-10P662
	Terminal	
TP01	25060061	Terminal PC

U9:CONNECTOR PC BOARD (NAETC-6883)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Sockets	
P351B	25052249	NSCT-16P2146
P352A	25051796A	NSCT-16P1583

NOTE:
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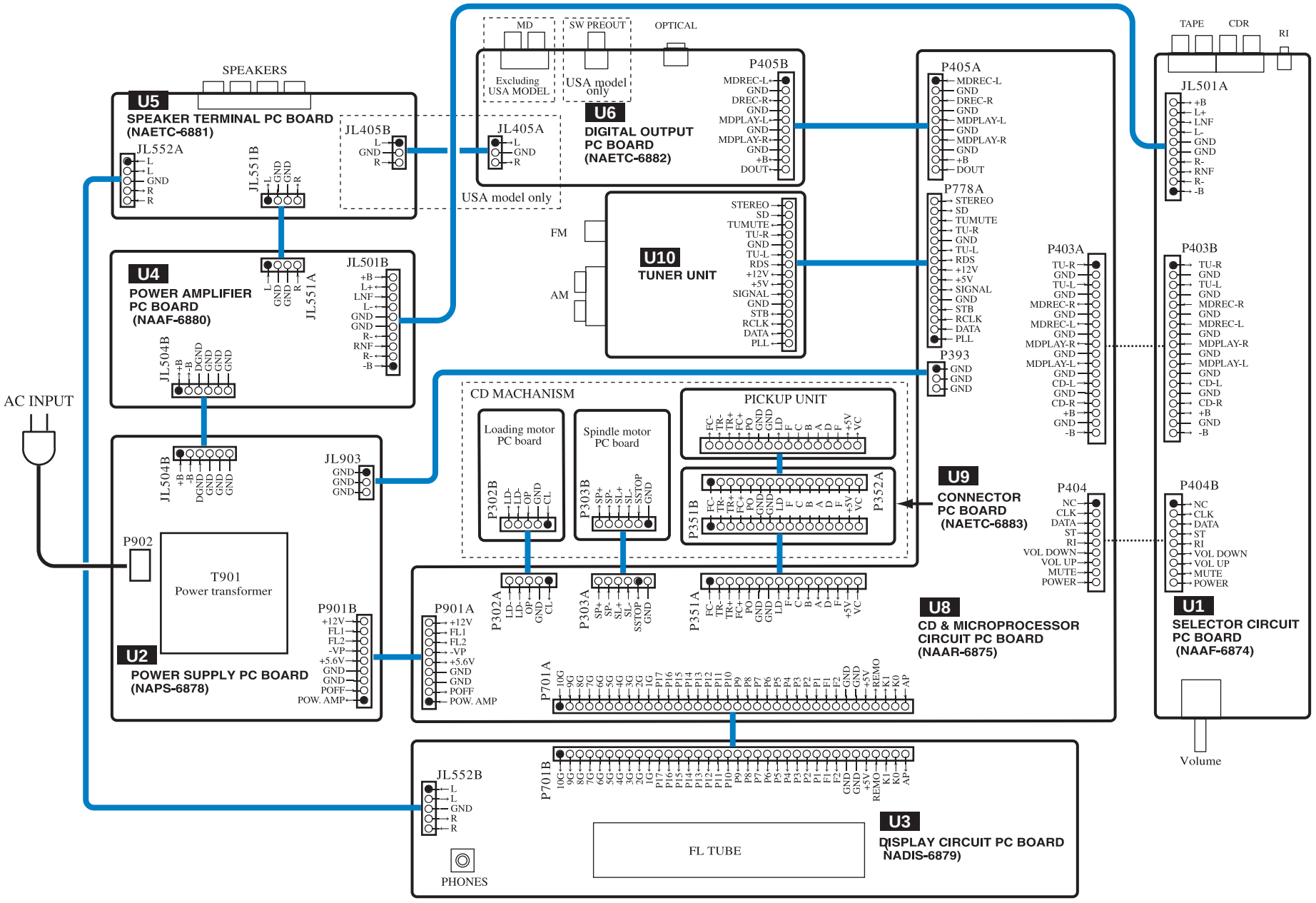
NOTE : THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

PC BOARD CONNECTION DIAGRAM

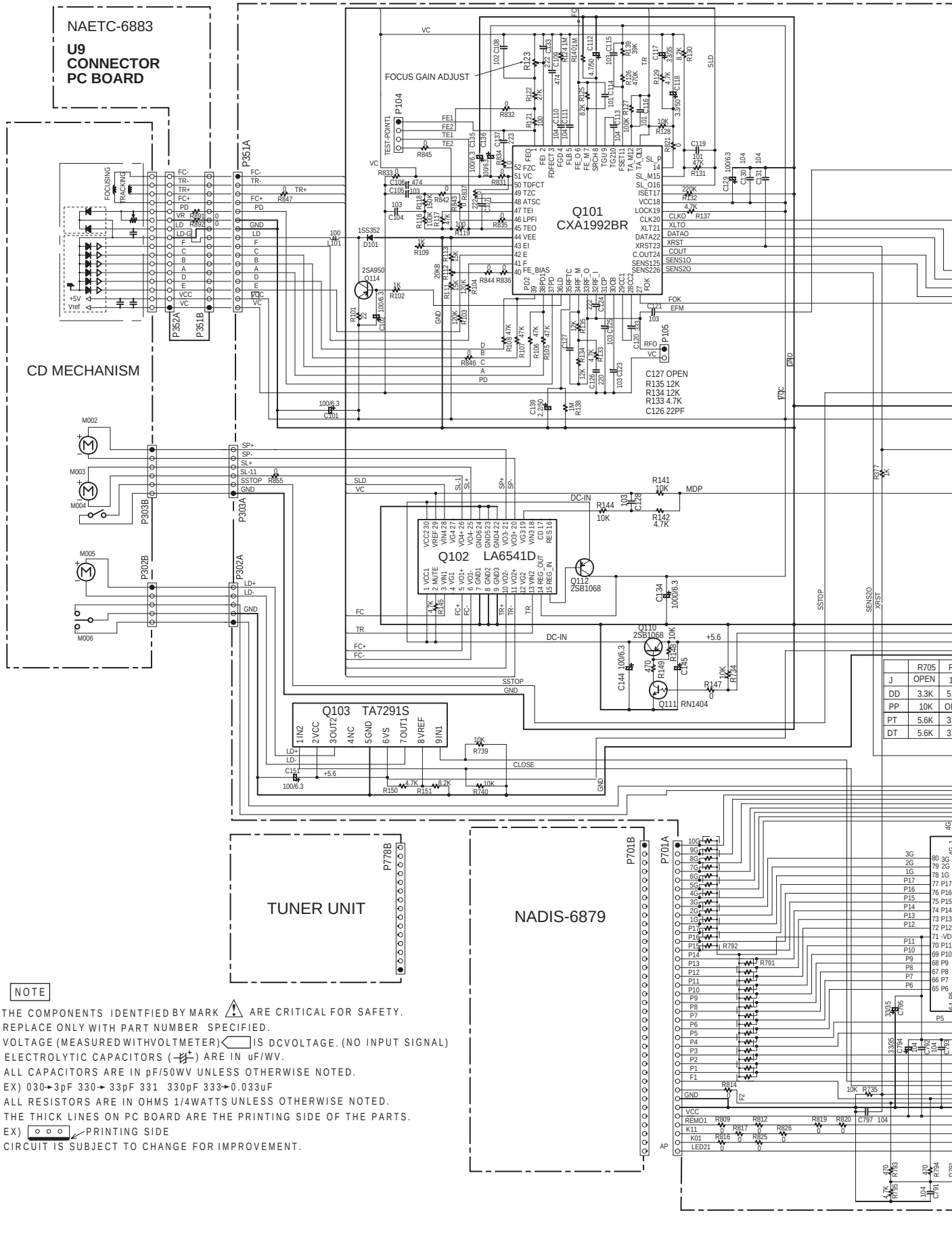


A B C D

1 2 3 4 5

SCHEMATIC DIAGRAMS-2

(CD AND MICROPROCESSOR SECTION)



NOTE

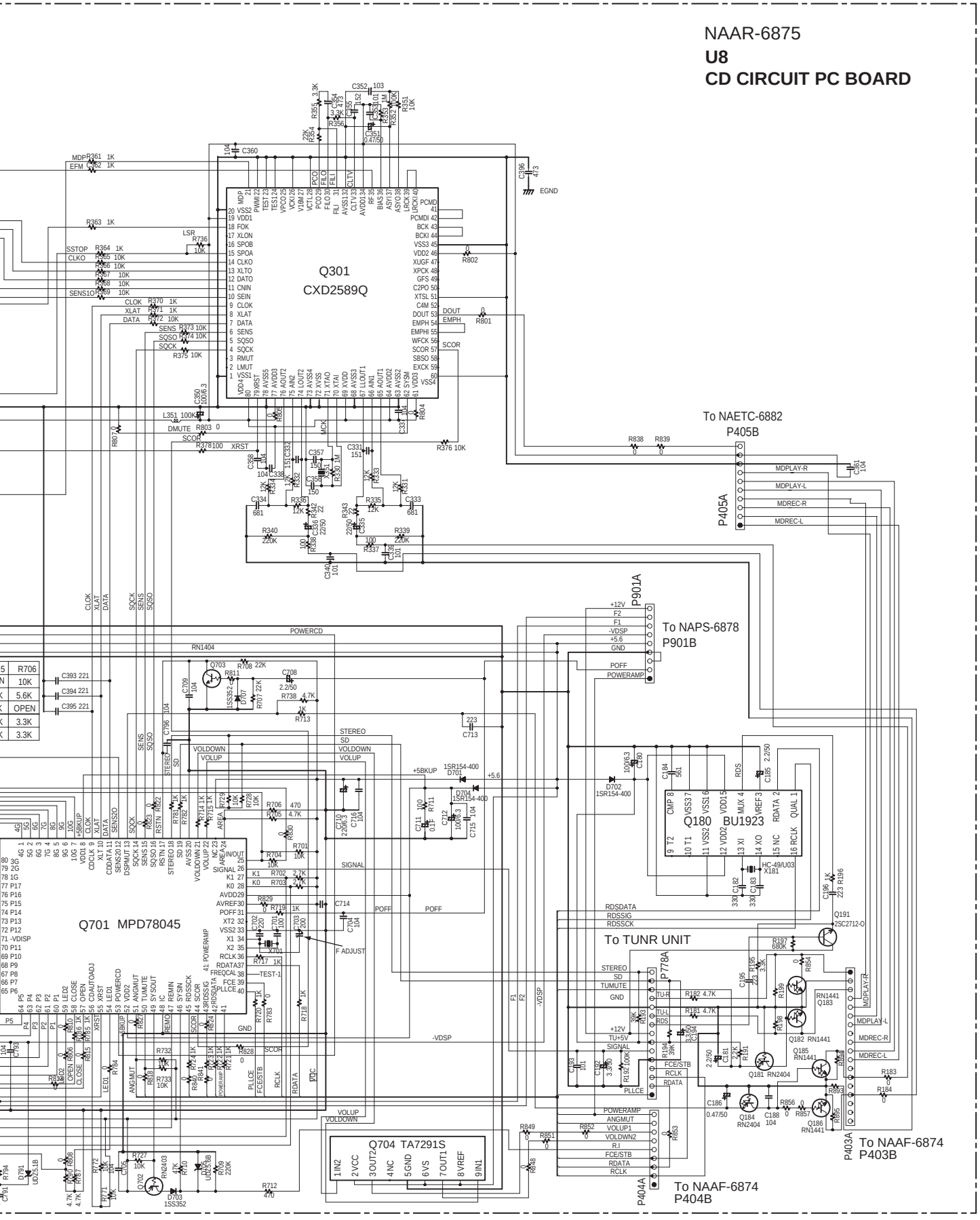
- THE COMPONENTS IDENTFIED BY MARK ⚠ ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH VOLTMETER) ⟨ ⟩ IS DC VOLTAGE. (NO INPUT SIGNAL)
- ELECTROLYTIC CAPACITORS (⊣⁺) ARE IN uF/WV.
- ALL CAPACITORS ARE IN pF/50WV UNLESS OTHERWISE NOTED.
  EX) 030→3pF 330→ 33pF 331 330pF 333→0.033uF
- ALL RESISTORS ARE IN OHMS 1/4WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
  EX) ○ ○ ○ ← PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

E F G H

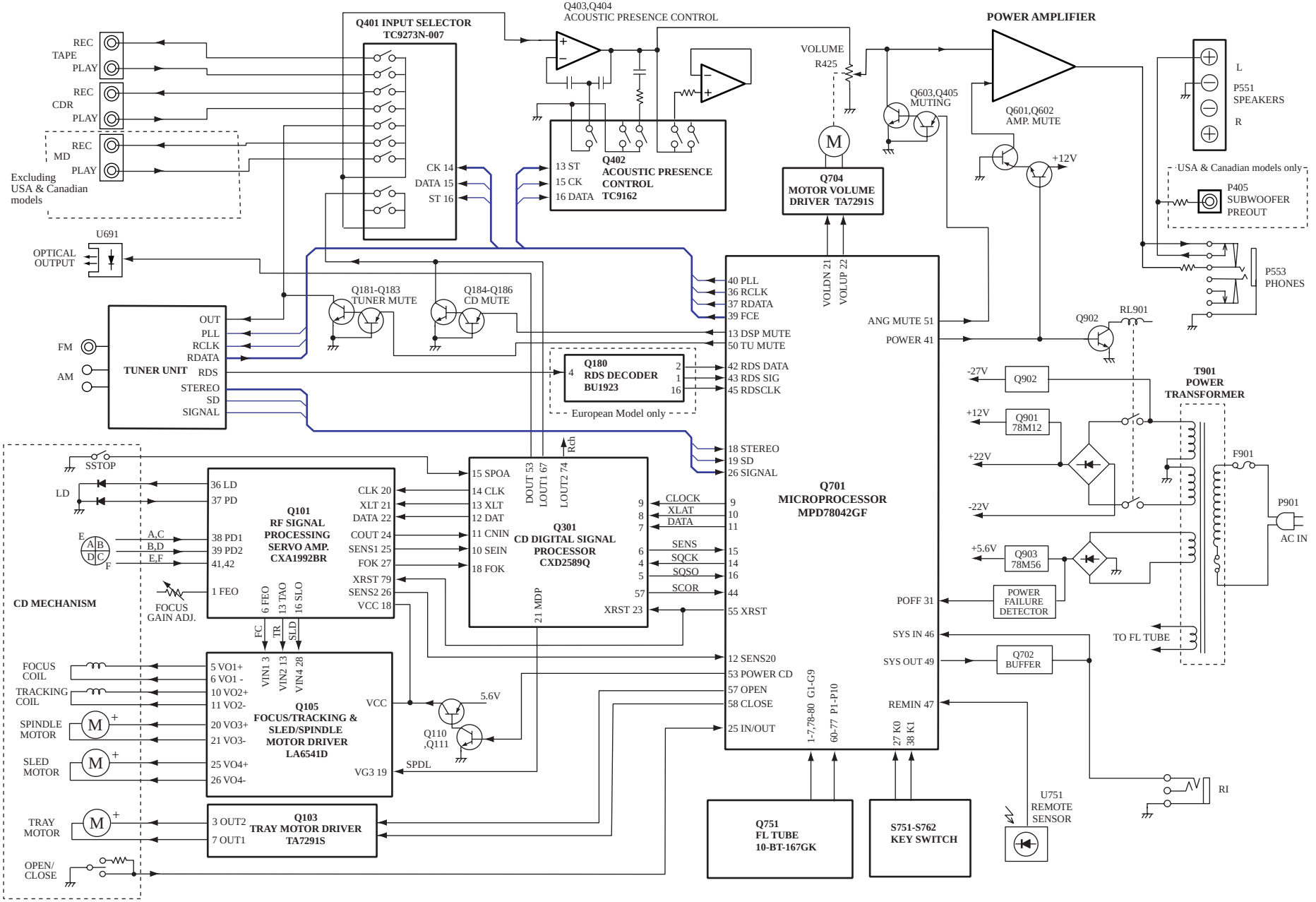
NAAR-6875

U8

CD CIRCUIT PC BOARD



BLOCK DIAGRAM



EXPLODED VIEWS OF MECHANISM-1

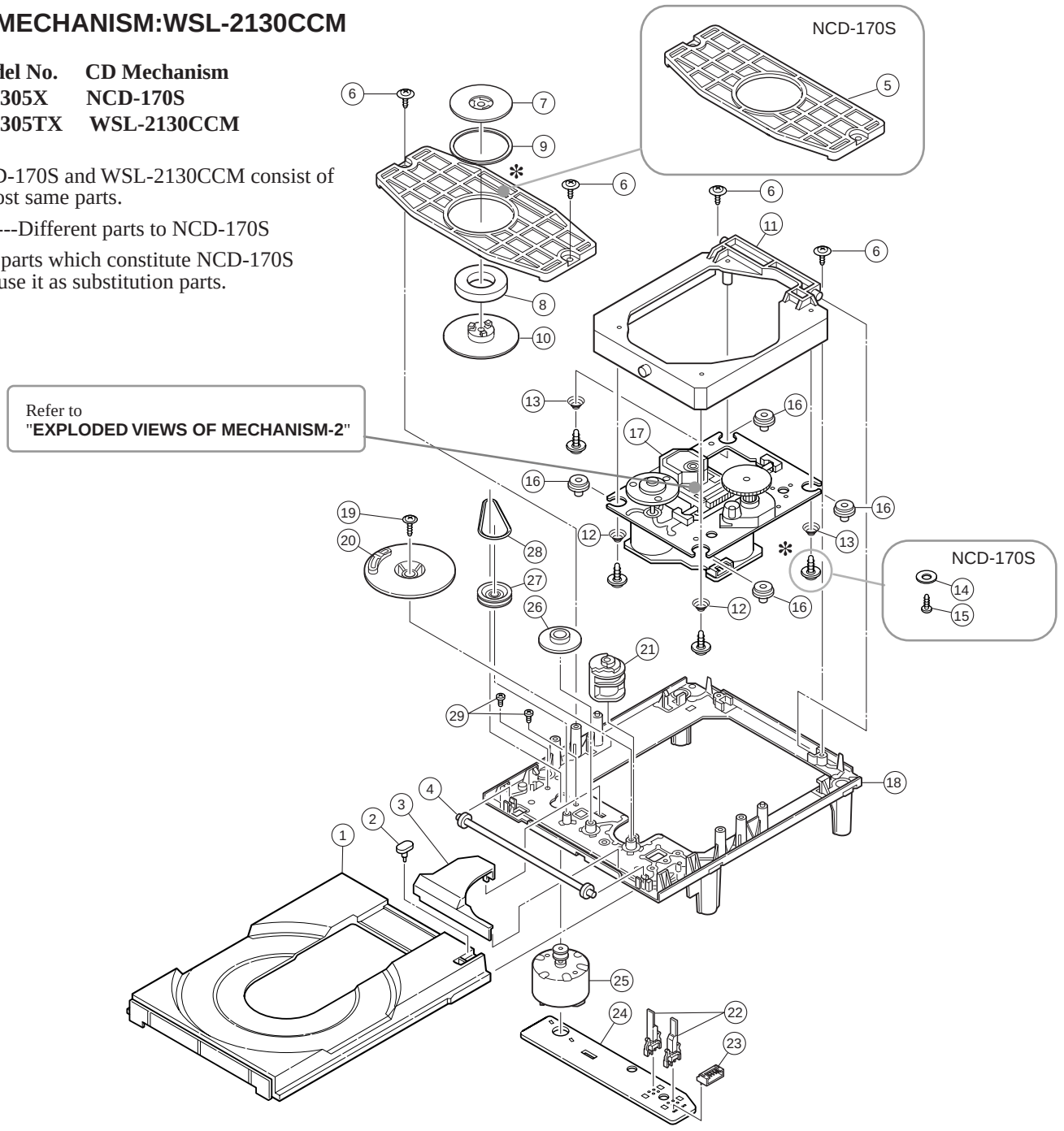
CD MECHANISM:WSL-2130CCM

Model No.	CD Mechanism
CR-305X	NCD-170S
CR-305TX	WSL-2130CCM

NCD-170S and WSL-2130CCM consist of almost same parts.

✻ ---Different parts to NCD-170S

The parts which constitute NCD-170S can use it as substitution parts.



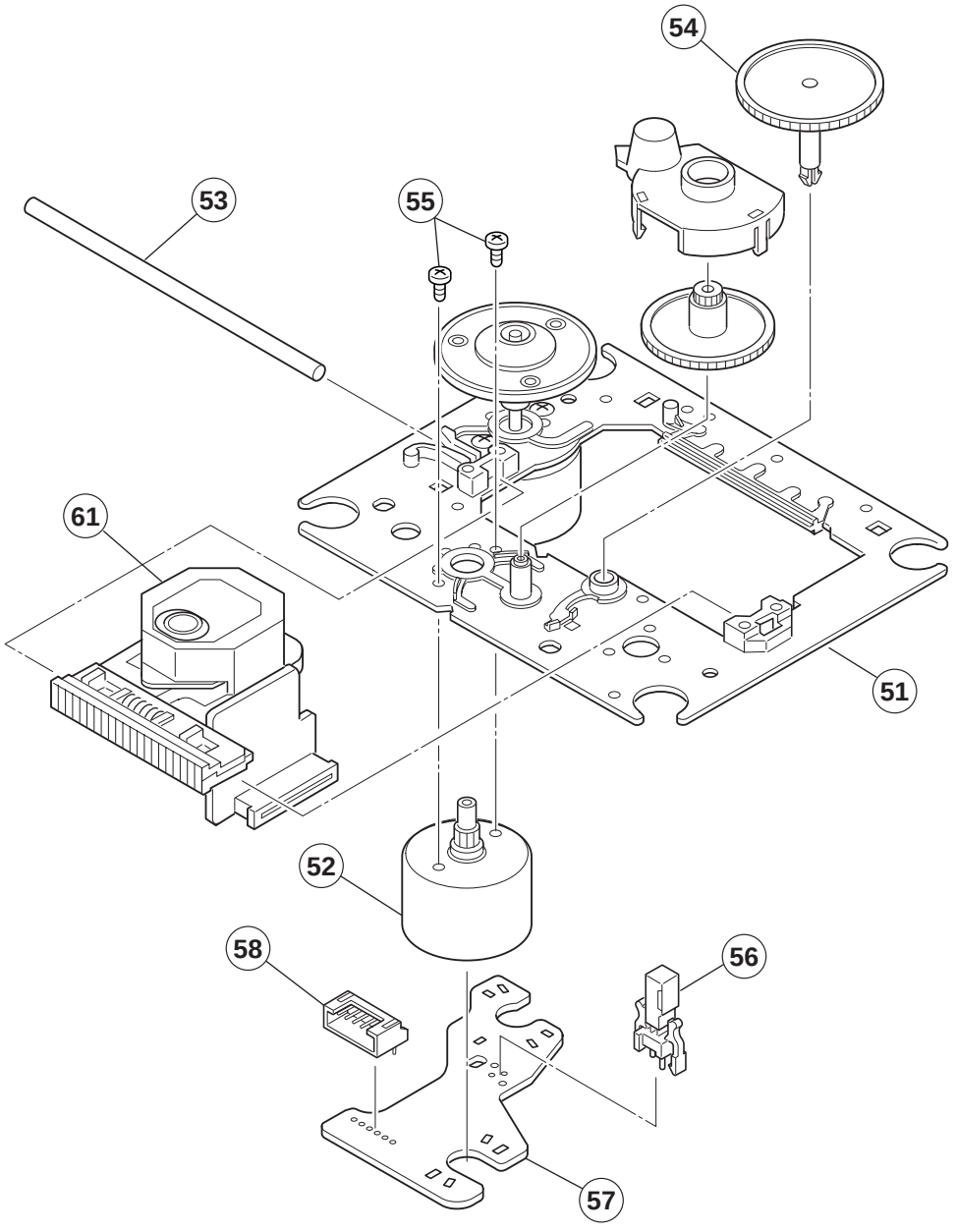
PARTS LIST

The mechanical parts with no part number in the exploded views are not supplied.

REF. NO.	PART NO.	DESCRIPTION
1	2646-290-01	Tray
2	---	Stopper
3	2625-544-01	Gear cover
4	2625-535-01	Tray Gear
5	2625-546-01	Chucking plate
6	---	PTPWH2.6 x 7, Screw
7	2625-537-01	Chucking yoke
8	1452-493-21	Magnet
9	2625-541-02	Damper
10	2646-291-01	Chucking pulley
11	2646-288-01	Sub chassis
12	2627-236-01	Coil spring (front)
13	2627-235-01	Coil spring (back)
14	2646-289-01	Washer
15	---	P2.6 x 10, Screw
16	2627-234-01	Insulator
17	---	Drive unit
18	2625-552-06	Main chassis
19	3319-501-51	PTPWH2.6 x 16, Screw
20	2625-547-01	Drive Gear
21	2625-545-04	Control cam
22	1692-667-11	Leaf switch
23	1564-721-11	Socket
24	1640-523-11	Loading PC board
25	X2625-117-1	Loading motor
26	2625-274-02	Middle gear
27	2625-536-02	Loading pulley
28	3653-387-00	LM belt
29	---	B2.6 x 2.5, Screw

EXPLODED VIEWS OF MECHANISM-2

CD MECHANISM:WSL-2130CCM (CD DRIVE UNIT)



PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
51	X2625-877-1	Motor chassis ass'y
52	X2625-769-1	Motor gear ass'y
53	2626-908-01	Sled shaft
54	24810023	Gear (A) (S)
55	7621-255-15	P2 x 3, Screw
56	24840008	Leaf switch
57	1639-678-12	Motor PC board
58	1564-722-11	Connector 6pin
61	8848-483-05	KSS-213C, Pickup

EXPLODED VIEW PARTS LIST-1

REF NO.	PART NO.	DESCRIPTION	
1	3217210171000	FRAME FRONT	
6	838130088	3TTB+8B, Self tapping screw	
7	3200210996000	MAIN CHASSIS	
8	27190693A	KGLS-6RF, Holder	
9	27191112	KGPS-6RF, Holder	
10	4070210311000	SUPPORTER CD MECHA	
12	27175253-1A	Leg	
14	27300750	Busing, cord	⚠
15	830440069	4TTC+6C(BC), Self tapping screw	
16	831430088	3TTW+8B(BC), Self tapping screw	
20	4310210401000	COVER HEAT SINK	
22	3000210266000	CABINET COVER	
23	838930088	3TTB+8B(UN), Self tapping screw	
24	5087210571000	KNOB VOLUME	
25	4317210391000	DOOR CD	
26	27150456	Shield plate	
31	3207211006000	BACK CHASSIS	<DD>
	3207211006100	BACK CHASSIS	<PP, GR, DT, GT>
33	838430068	3TTB+6B(BC), Self tapping screw	
41	3067210858000	AL PANEL FRONT	<DD, GR, DT, GT>
	3067210858011	AL PANEL FRONT	<PP>
42	5127210262000	DECORATION VOLUME	
43	4357210031000	GUIDE VOLUME	
44	5070210851000	WINDOW REMOCON	
46	3710210333000	LENS INDICATOR	
47	5077210843000	WINDOW DISPLAY	
50	880009	Plastic rivet, NRP-345	<PP, GR, GT>
52	5507100500450	LABEL RATING	<DD>
	5507100500470	LABEL RATING	<GR>
	5507100500480	LABEL RATING	<DT>
	5507100500460	LABEL RATING	<PP>
53	5507100500510	LABEL FCC and WARNING	<DD>
	5507100500520	LABEL FCC and WARNING	<PP, GT, DT>
54	5507100500440	LABEL LASER CAUTION	<GR, GT, PP>

NOTE: THE COMPONENTS IDENTIFIED BY MARK⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

REF NO.	PART NO.	DESCRIPTION	
F901	252157	1.25A-UL/T-237, Fuse	⚠ <DD, DT>
	252083	0.4A-SE-EAW, Fuse	⚠ <PP,GR, GT>
P302	2009990500	NSAS-10P0654, Socket	
P303	20022391210	NSAS-12P0723, Socket	
P351	2047161012	NCFC7-161012, Flexible flat cable	
P352	2042161022	NCFC2-161022, Flexible flat cable	
P701	2047360612	NCFC7-360612, Flexible flat cable	
P778	2047151012	NCFC7-151012, Flexible flat cable	
P901	253294HDK	AS-UC-2#18, Power supply cord	⚠ <DD, DT>
	253287HIT	AS-CCEE, Power supply cord	⚠ <GR>
	253237HIT	AS-CEE, Power supply cord	⚠ <PP, GT>
Q557,Q558	2203384 or	2SC3851-Y or	∗
	2203383	2SC3851-O, Transistor	∗
Q559,Q560	2203394 or	2SA1488-Y or	∗
	2203393	2SA1488-O, Transistor	∗
Q557A	2120210418000	HEAT SINK	
Q557B	801433	3SMS8W.SW+14B(BC), Special screw	
T901	2301452	NPT-1391D, Power transformer	⚠ <DD, DT>
	2301454	NPT-1391G, Power transformer	⚠ <GR, GT>
	2301453	NPT-1391P, Power transformer	⚠ <PP>
Z1	24800018A	NCD-170S, CD mechanism	
Z2	24840133	Boss, PCB	
Z3	24840135	Boss, PCB3	
Z5	838120080	2TTB+8P, Self tapping screw	
Z6	838426088	2.6TTB+8B(BC), Self tapping screw	

CAUTION:
Replacement of the transistor of mark∗, if necessary, must be made from the same beta group(HFE) as the original type.

NOTE:
<DD> : USA and Canadian model only
<PP> : European model only
<DT> : Taiwanese model only
<GT> : Asian model only
<GR> : Chinese model only

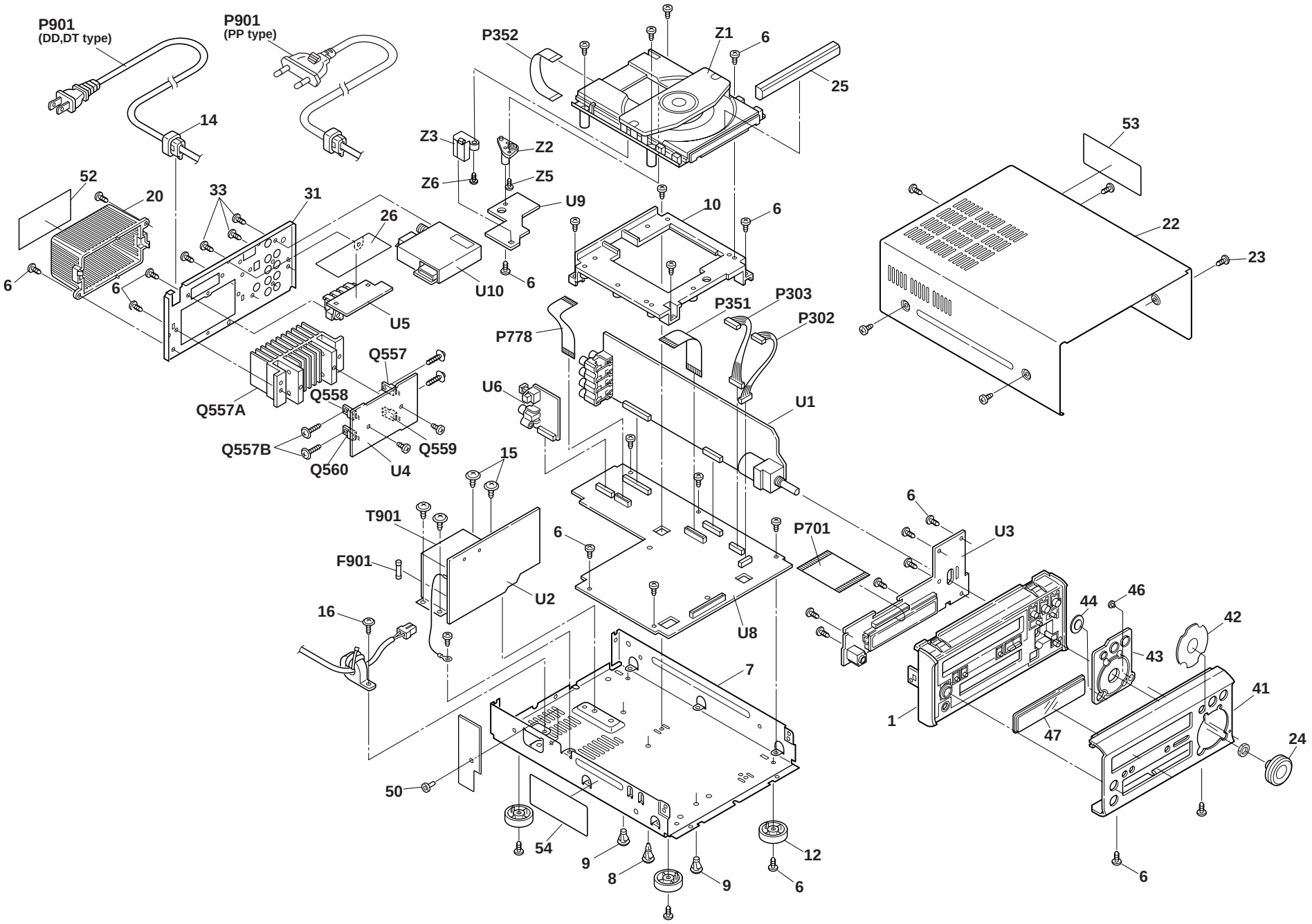
EXPLODED VIEW PARTS LIST-2

REF NO.	PART NO.	DESCRIPTION	
U1	7028061541010	PCB AUDIO ASSY	
U2	7028061542010	PCB SUPPLY ASSY	<DD, DT>
	7028061542030	PCB SUPPLY ASSY	<PP>
	7028061542040	PCB SUPPLY ASSY	<GT,GR>
U3	7028061543010	FRONT PCB ASSY	
U4	7028061546010	AMP BOARD ASSY	
U5	7028061544010	SPEAKER BOARD ASSY	<DD>
	7028061544030	SPEAKER BOARD ASSY	<PP,DT, GT,GR>
U6	7028061545010	PCB DIGITAL ASSY	<DD>
	7028061545030	PCB DIGITAL ASSY	<PP,DT, GT,GR>
U8	7028061551010	CD PCB ASSY	<DD.
	7028061551030	CD PCB ASSY	<PP>
	7028061551040	CD PCB ASSY	<DT, GR, GT>
U9	7028061552010	CONNECTOR PCB ASSY	
U10	240134	TFCE1U114A, Tuner unit	<DD>
	240135	TFCE1E512A, Tuner unit	<GR, GT, PP, DT>

NOTE: THE COMPONENTS IDENTIFIED BY MARK⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

NOTE:
<DD> : USA and Canadian model only
<PP> : European model only
<DT> : Taiwanese model only
<GT> : Asian model only
<GR> : Chinese model only

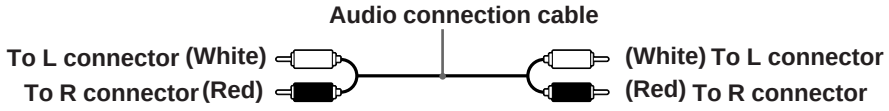
EXPLODED VIEW



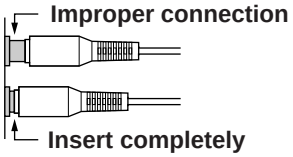
PANEL VIEW

REAR PANEL

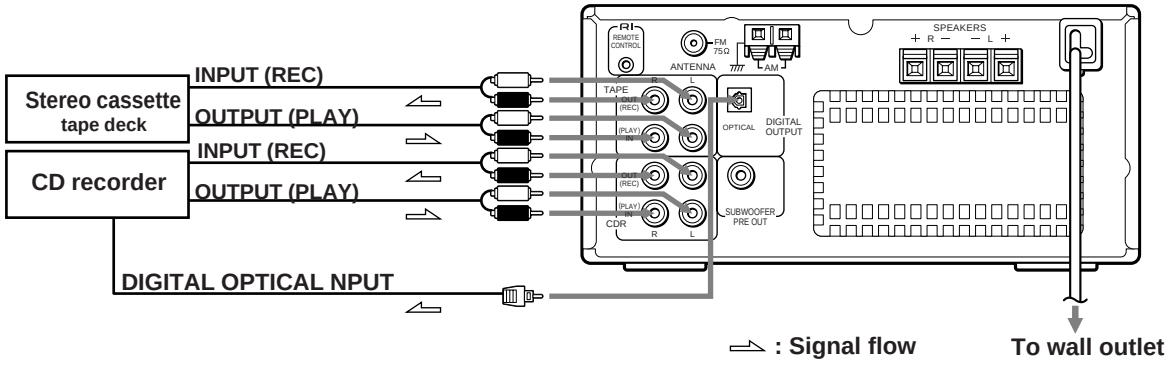
- Do not connect the AC power cord (mains lead) to the wall outlet (the mains) until you have completed all the other connections including the RI connections on page 7, and the speaker connections on page 8.
- On each pair of connectors, a red connector (marked R) corresponds to the right channel, and a white connector (marked L) to the left channel.
  Connect white plugs of audio connection cables to L connectors and connect red plugs of audio connection cables to R connectors .



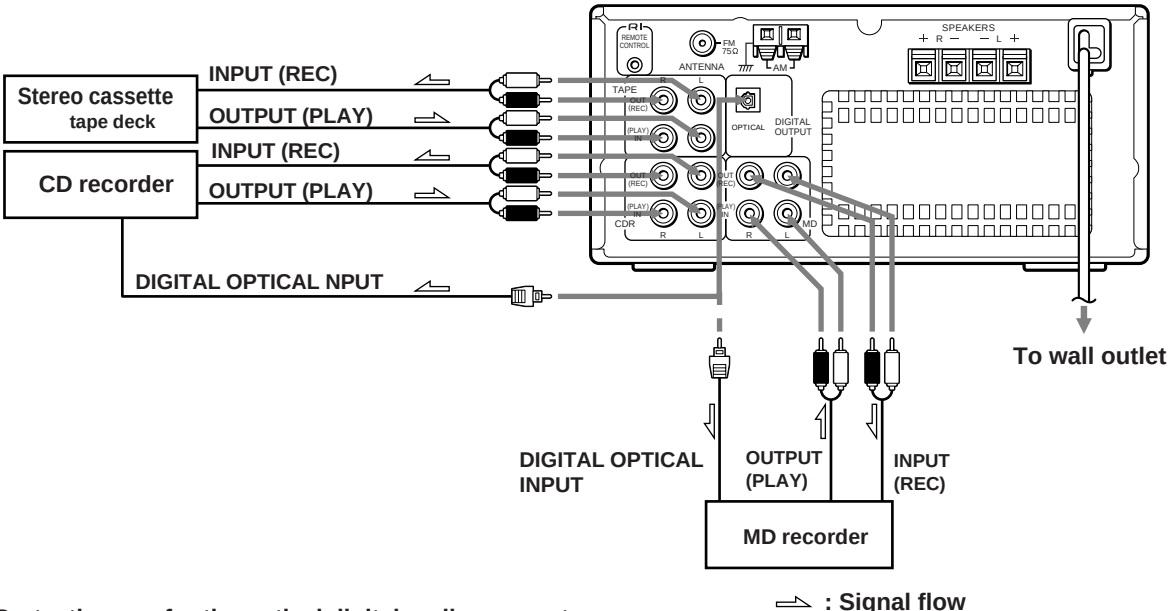
Please refer to the instruction manual for each component when you make any connections.
Insert the plug securely. If the connection is incomplete, noise or malfunction may result.



U.S. and Canadian models

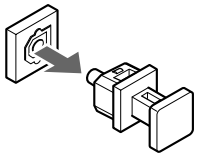


Asian and European models



Protective cap for the optical digital audio connector

- Remove the protective cap before you use the OPTICAL DIGITAL OUTPUT connector. Please retain it for future use. If you do not use the optical digital audio connector, make sure to replace the cap.



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ONKYO
HOMEPAGE
http://www.onkyo.co.jp/

SERVICE PROCEDURES-1

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

SERVICE WARNING : DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICKUP BLOCK.

Laser Diode Properties

Material: GaAS/GaAlAs
Wavelength: 780nm
Laser output: max. 0.5mW*
Emission Duration: continuous
*This output is the value measured at a distance about 1.8mm from the objective lens surface on the Optical Pickup Block.

LASER WARNING LABEL

The labels shown below are affixed.

1. Warning label

DANGER-INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK FAILED OR DEFEATED. AVOID DIRECT EXPOSURE TO BEAM.
CAUTION-HAZARDOUS LASER AND ELECTROMAGNETIC RADIATION WHEN OPEN AND INTERLOCK DEFEATED.
ATTENTION-RAYONNEMENT LASER ET ELECTROMAGNETIQUE DANGEREUX SI OUVERT AVEC L'ECLENCHEMENT DE SECURITE ANNULE.
29362285

DANGER:
INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK FAILED OR DEFEATED. AVOID DIRECT EXPOSURE TO BEAM.

CAUTION:
HAZARDOUS LASER AND ELECTROMAGNETIC RADIATION WHEN OPEN AND INTERLOCK DEFEATED.

ATTENTION:
RAYONNEMENT LASER ET ELECTROMAGNETIQUE DANGEREUX SI OUVERT AVEC L'ECLENCHEMENT DE SECURITE ANNULE.

2. Class 1 label

LUOKAN 1
LASERLAITE

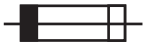
KLASS 1
LASER APPARAT

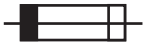
Printed on rear panel

SERVICE PROCEDURES-2

SERVICE PROCEDURES

1. Replacing the fuses


This symbol located near the fuse indicates that the fuse used is show operating type, For continued protection against fire hazard, replace with same type fuse , For fuse rating, refer to the marking adjest to the symbol.


Ce symbole indique que le fusible utilise est e lent. Pour une protection permanente, n'utiliser que des fusibles de meme type. Ce demier est indique la qu le present symbol est apposre.

REF.NO.	PART NO.	DESCRIPTION
F901	252157 ⚠	1.25A-UL/T-237, Fuse <DD, DT>
	252083 ⚠	0.4A-SE-EAW, FUSE <PP,GR, GT>

NOTE : <DD, DT> : 120 V model only
<PP,GR, GT> : 230 V model only

2. To initialize the unit

1. Press and hold the MEMORY button and press the DISPLAY button.
   All segments light up.
2. Press the STANDBY/ON button.
   When " CLEAR " appears on the display, the preset memory and each mode stored in the memory are initialized and will return to the factory setting.

3. Safety-check out

(Only U.S.A. model)
After correcting the original service problem perform the follwing safety check before releasing the set to the customer
Connect the insulating-resistance tester between the plug of power supply cord and terminal GND on the back panel.
Specifications: More than 10Mohm at 500V

4. Memory Preservation

This unit does not require memory preservation batteries. A built-in memory power back-up system preserves the contents of the memory during power failures and even when the unit is un-plugged.
The unit must be plugged in order to charge the back-up system.
The memory preservation period after the unit has been unplugged varies depending on climate and placement of the unit.
On the average, memory contents are protected over a period of a few weeks after the last time the unit has been unplugged.
This period is shorter when the unit is exposed to a highly humid cli-mate.

5. Changing the AM band step

With the exception of the worldwide models, a tuning step selector switch is not provided.
When you change the band step, change the parts as shown below.

	To 10kHz	To 9kHz
R705	3.3k	10k
R706	5.6k	open

PANEL VIEW

REAR PANEL

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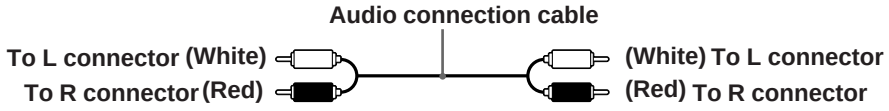
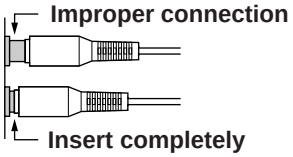
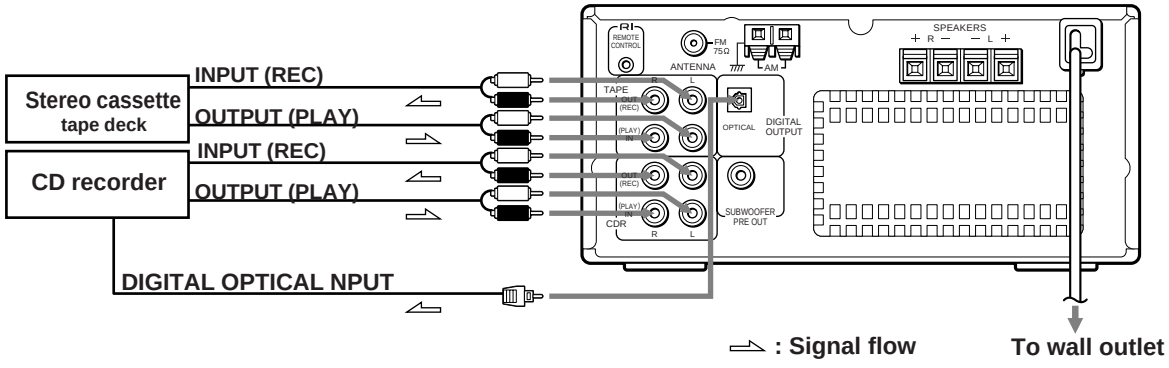
  Connect white plugs of audio connection cables to L connectors and connect red plugs of audio connection cables to R connectors .



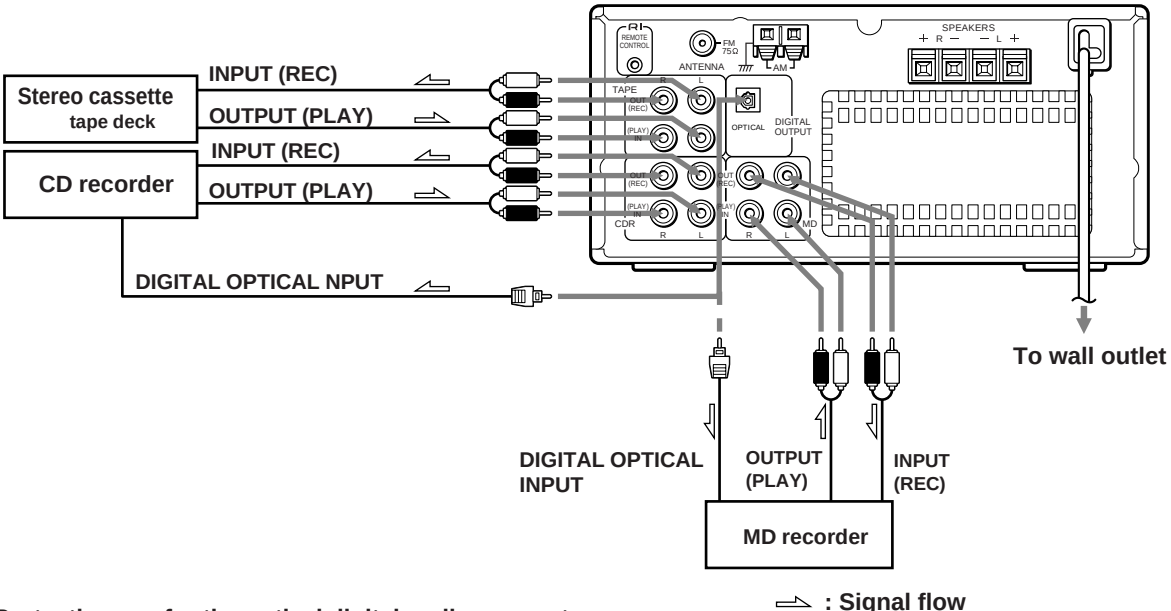
Please refer to the instruction manual for each component when you make any connections.
Insert the plug securely. If the connection is incomplete, noise or malfunction may result.



U.S. and Canadian models

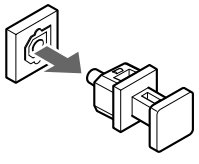


Asian and European models

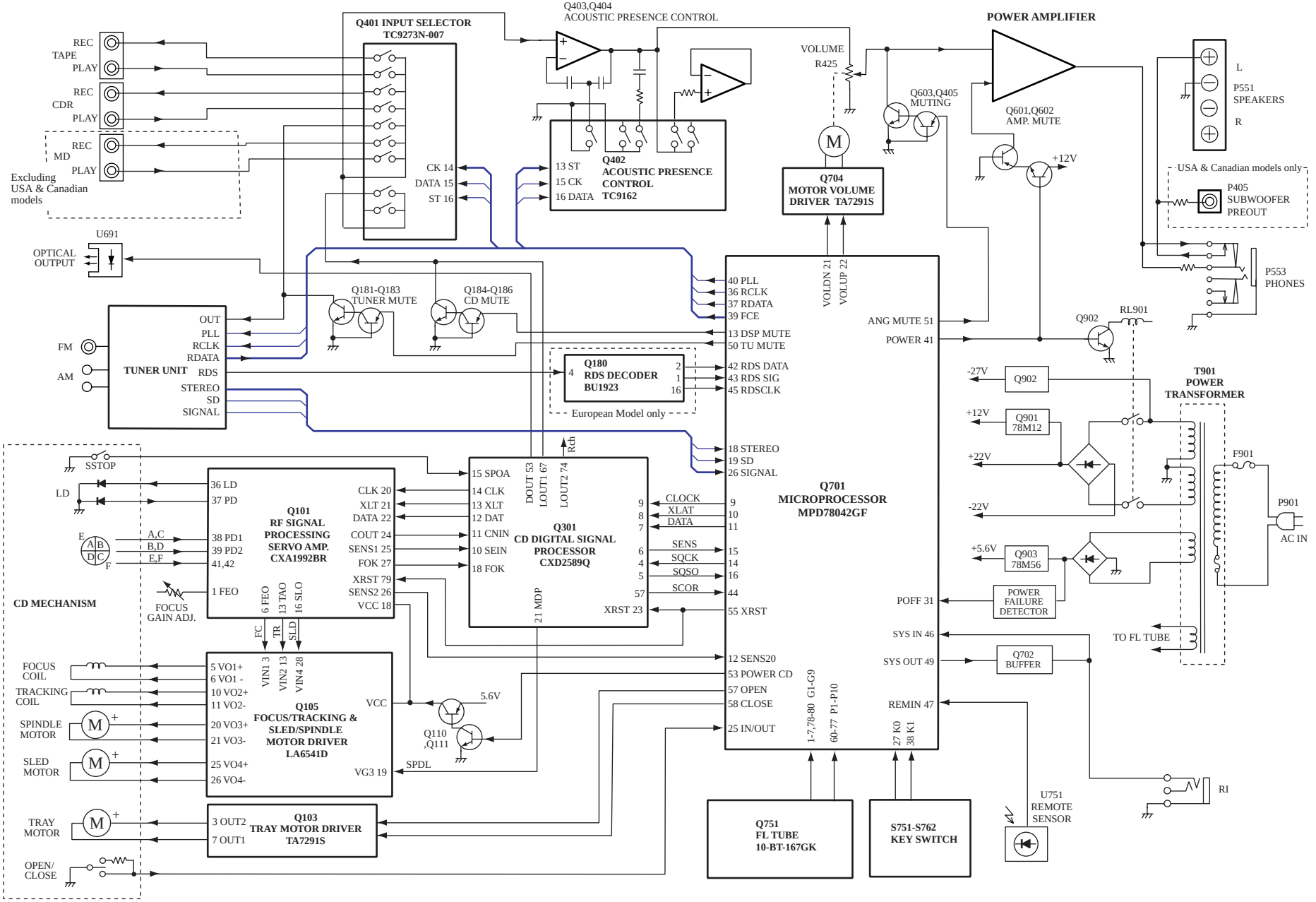


Protective cap for the optical digital audio connector

- Remove the protective cap before you use the OPTICAL DIGITAL OUTPUT connector. Please retain it for future use. If you do not use the optical digital audio connector, make sure to replace the cap.



BLOCK DIAGRAM



EXPLODED VIEWS OF MECHANISM-1

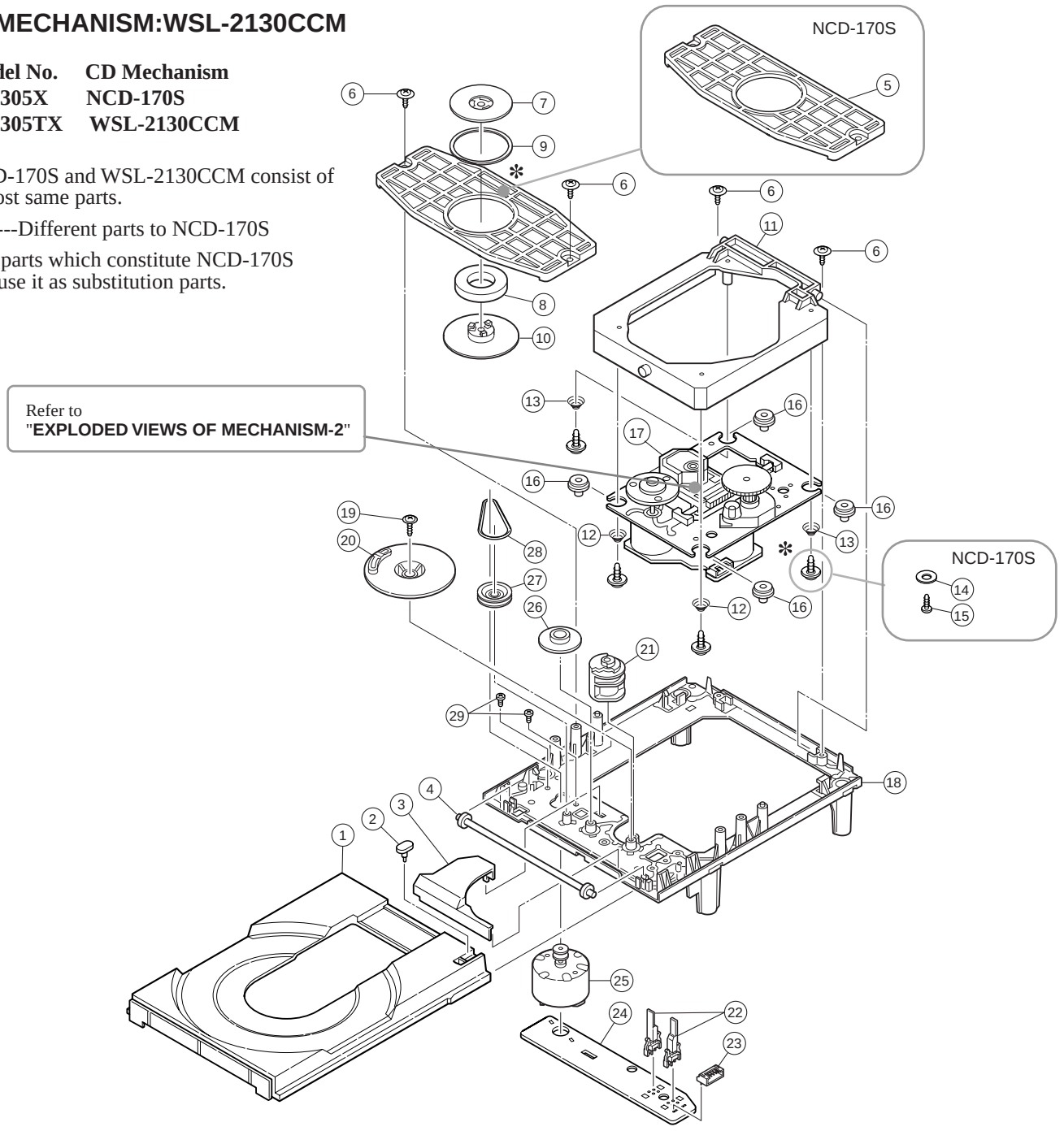
CD MECHANISM:WSL-2130CCM

Model No.	CD Mechanism
CR-305X	NCD-170S
CR-305TX	WSL-2130CCM

NCD-170S and WSL-2130CCM consist of almost same parts.

✻ ---Different parts to NCD-170S

The parts which constitute NCD-170S can use it as substitution parts.



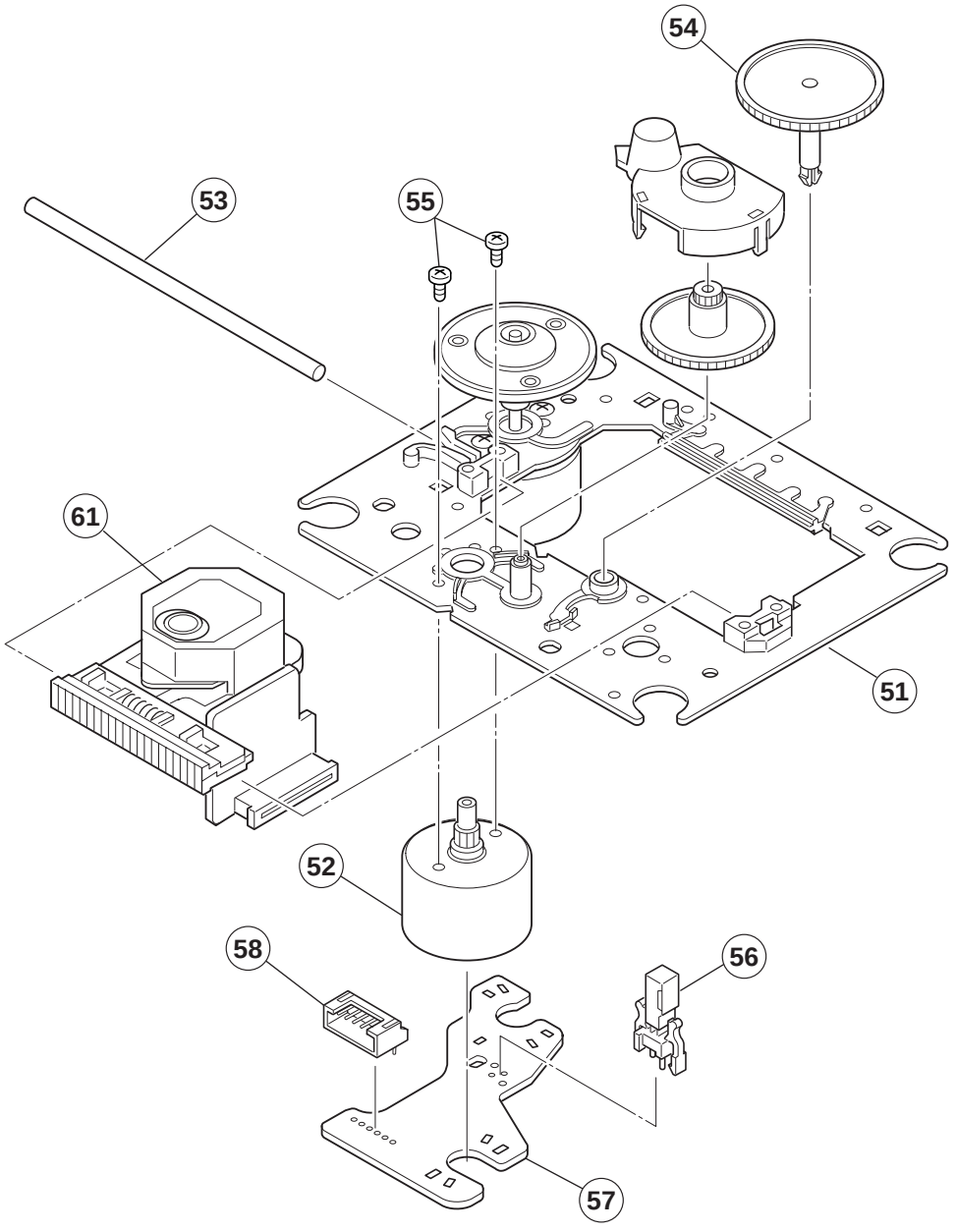
PARTS LIST

The mechanical parts with no part number in the exploded views are not supplied.

REF. NO.	PART NO.	DESCRIPTION
1	2646-290-01	Tray
2	---	Stopper
3	2625-544-01	Gear cover
4	2625-535-01	Tray Gear
5	2625-546-01	Chucking plate
6	---	PTPWH2.6 x 7, Screw
7	2625-537-01	Chucking yoke
8	1452-493-21	Magnet
9	2625-541-02	Damper
10	2646-291-01	Chucking pulley
11	2646-288-01	Sub chassis
12	2627-236-01	Coil spring (front)
13	2627-235-01	Coil spring (back)
14	2646-289-01	Washer
15	---	P2.6 x 10, Screw
16	2627-234-01	Insulator
17	---	Drive unit
18	2625-552-06	Main chassis
19	3319-501-51	PTPWH2.6 x 16, Screw
20	2625-547-01	Drive Gear
21	2625-545-04	Control cam
22	1692-667-11	Leaf switch
23	1564-721-11	Socket
24	1640-523-11	Loading PC board
25	X2625-117-1	Loading motor
26	2625-274-02	Middle gear
27	2625-536-02	Loading pulley
28	3653-387-00	LM belt
29	---	B2.6 x 2.5, Screw

EXPLODED VIEWS OF MECHANISM-2

CD MECHANISM:WSL-2130CCM (CD DRIVE UNIT)



PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
51	X2625-877-1	Motor chassis ass'y
52	X2625-769-1	Motor gear ass'y
53	2626-908-01	Sled shaft
54	24810023	Gear (A) (S)
55	7621-255-15	P2 x 3, Screw
56	24840008	Leaf switch
57	1639-678-12	Motor PC board
58	1564-722-11	Connector 6pin
61	8848-483-05	KSS-213C, Pickup

EXPLODED VIEW PARTS LIST-1

REF NO.	PART NO.	DESCRIPTION	
1	3217210171000	FRAME FRONT	
6	838130088	3TTB+8B, Self tapping screw	
7	3200210996000	MAIN CHASSIS	
8	27190693A	KGLS-6RF, Holder	
9	27191112	KGPS-6RF, Holder	
10	4070210311000	SUPPORTER CD MECHA	
12	27175253-1A	Leg	
14	27300750	Busing, cord	⚠
15	830440069	4TTC+6C(BC), Self tapping screw	
16	831430088	3TTW+8B(BC), Self tapping screw	
20	4310210401000	COVER HEAT SINK	
22	3000210266000	CABINET COVER	
23	838930088	3TTB+8B(UN), Self tapping screw	
24	5087210571000	KNOB VOLUME	
25	4317210391000	DOOR CD	
26	27150456	Shield plate	
31	3207211006000	BACK CHASSIS	<DD>
	3207211006100	BACK CHASSIS	<PP, GR, DT, GT>
33	838430068	3TTB+6B(BC), Self tapping screw	
41	3067210858000	AL PANEL FRONT	<DD, GR, DT, GT>
	3067210858011	AL PANEL FRONT	<PP>
42	5127210262000	DECORATION VOLUME	
43	4357210031000	GUIDE VOLUME	
44	5070210851000	WINDOW REMOCON	
46	3710210333000	LENS INDICATOR	
47	5077210843000	WINDOW DISPLAY	
50	880009	Plastic rivet, NRP-345	<PP, GR, GT>
52	5507100500450	LABEL RATING	<DD>
	5507100500470	LABEL RATING	<GR>
	5507100500480	LABEL RATING	<DT>
	5507100500460	LABEL RATING	<PP>
53	5507100500510	LABEL FCC and WARNING	<DD>
	5507100500520	LABEL FCC and WARNING	<PP, GT, DT>
54	5507100500440	LABEL LASER CAUTION	<GR, GT, PP>

NOTE: THE COMPONENTS IDENTIFIED BY MARK⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

REF NO.	PART NO.	DESCRIPTION	
F901	252157	1.25A-UL/T-237, Fuse	⚠ <DD, DT>
	252083	0.4A-SE-EAW, Fuse	⚠ <PP,GR, GT>
P302	2009990500	NSAS-10P0654, Socket	
P303	20022391210	NSAS-12P0723, Socket	
P351	2047161012	NCFC7-161012, Flexible flat cable	
P352	2042161022	NCFC2-161022, Flexible flat cable	
P701	2047360612	NCFC7-360612, Flexible flat cable	
P778	2047151012	NCFC7-151012, Flexible flat cable	
P901	253294HDK	AS-UC-2#18, Power supply cord	⚠ <DD, DT>
	253287HIT	AS-CCEE, Power supply cord	⚠ <GR>
	253237HIT	AS-CEE, Power supply cord	⚠ <PP, GT>
Q557,Q558	2203384 or	2SC3851-Y or	∗
	2203383	2SC3851-O, Transistor	∗
Q559,Q560	2203394 or	2SA1488-Y or	∗
	2203393	2SA1488-O, Transistor	∗
Q557A	2120210418000	HEAT SINK	
Q557B	801433	3SMS8W.SW+14B(BC), Special screw	
T901	2301452	NPT-1391D, Power transformer	⚠ <DD, DT>
	2301454	NPT-1391G, Power transformer	⚠ <GR, GT>
	2301453	NPT-1391P, Power transformer	⚠ <PP>
Z1	24800018A	NCD-170S, CD mechanism	
Z2	24840133	Boss, PCB	
Z3	24840135	Boss, PCB3	
Z5	838120080	2TTB+8P, Self tapping screw	
Z6	838426088	2.6TTB+8B(BC), Self tapping screw	

CAUTION:
Replacement of the transistor of mark∗, if necessary, must be made from the same beta group(HFE) as the original type.

NOTE:
<DD> : USA and Canadian model only
<PP> : European model only
<DT> : Taiwanese model only
<GT> : Asian model only
<GR> : Chinese model only

EXPLODED VIEW PARTS LIST-2

REF NO.	PART NO.	DESCRIPTION	
U1	7028061541010	PCB AUDIO ASSY	
U2	7028061542010	PCB SUPPLY ASSY	<DD, DT>
	7028061542030	PCB SUPPLY ASSY	<PP>
	7028061542040	PCB SUPPLY ASSY	<GT,GR>
U3	7028061543010	FRONT PCB ASSY	
U4	7028061546010	AMP BOARD ASSY	
U5	7028061544010	SPEAKER BOARD ASSY	<DD>
	7028061544030	SPEAKER BOARD ASSY	<PP,DT, GT,GR>
U6	7028061545010	PCB DIGITAL ASSY	<DD>
	7028061545030	PCB DIGITAL ASSY	<PP,DT, GT,GR>
U8	7028061551010	CD PCB ASSY	<DD.
	7028061551030	CD PCB ASSY	<PP>
	7028061551040	CD PCB ASSY	<DT, GR, GT>
U9	7028061552010	CONNECTOR PCB ASSY	
U10	240134	TFCE1U114A, Tuner unit	<DD>
	240135	TFCE1E512A, Tuner unit	<GR, GT, PP, DT>

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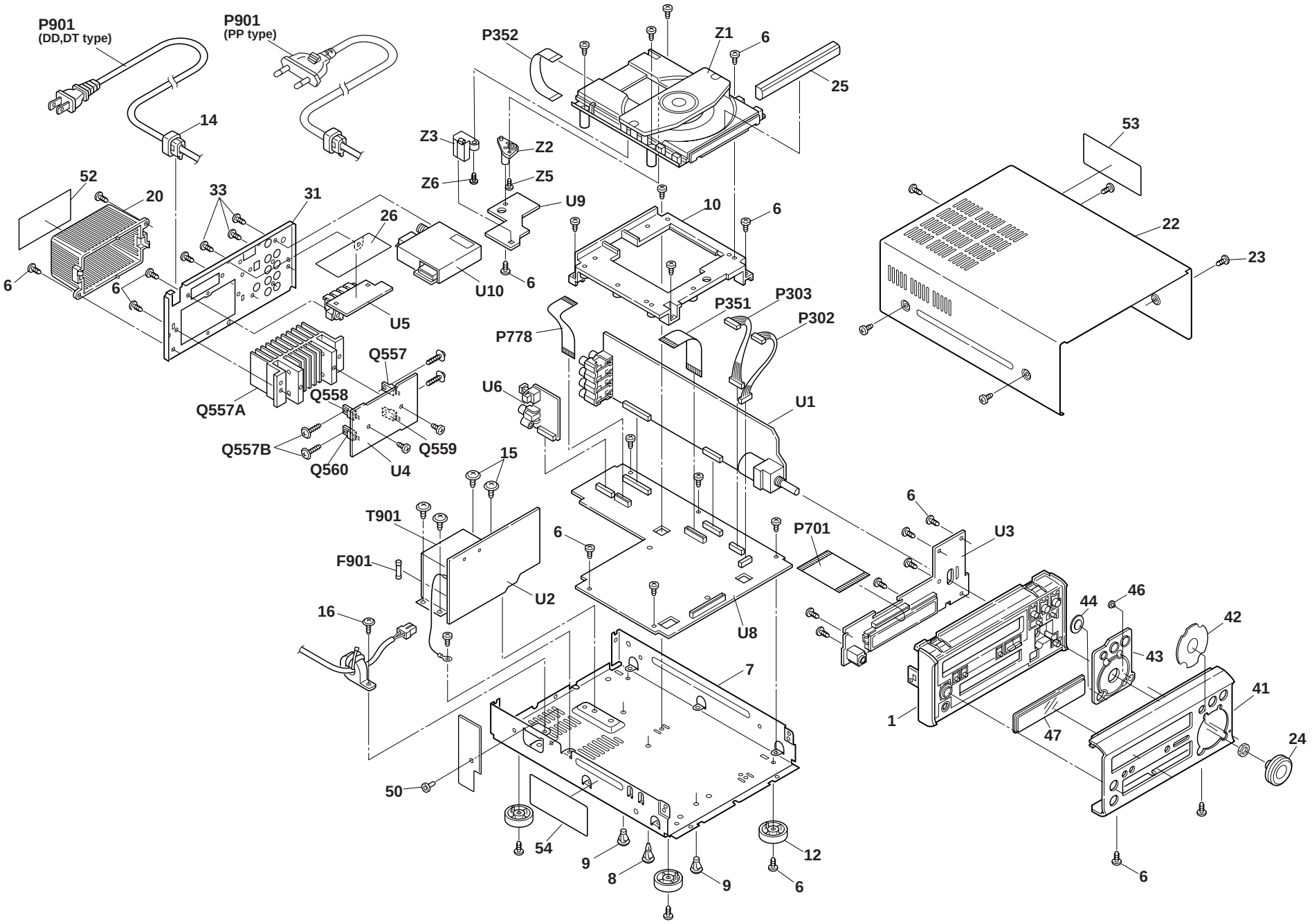
NOTE:
<DD> : USA and Canadian model only
<PP> : European model only
<DT> : Taiwanese model only
<GT> : Asian model only
<GR> : Chinese model only

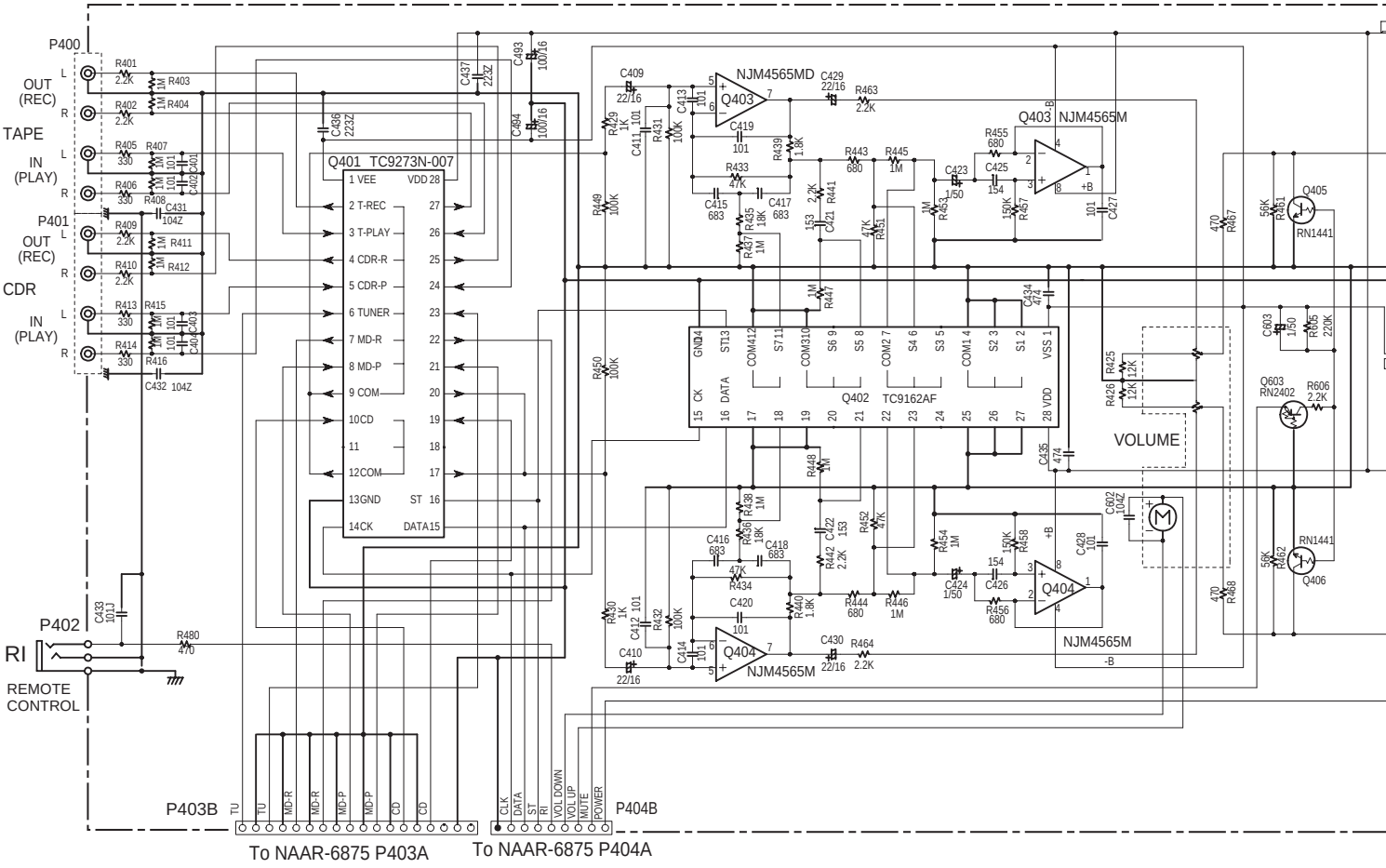
EXPLODED VIEW

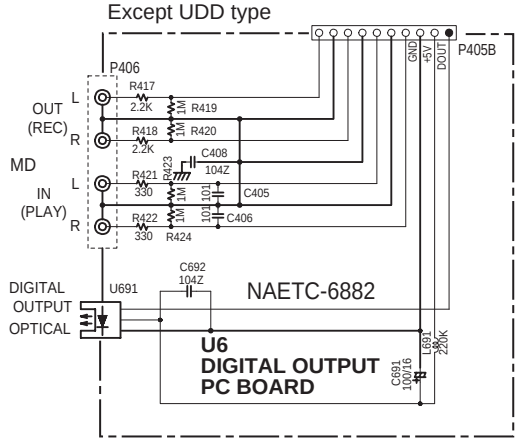


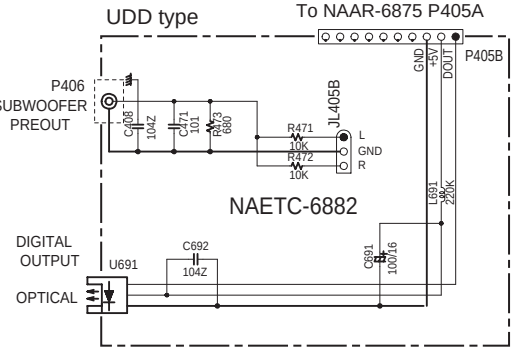
A B C D

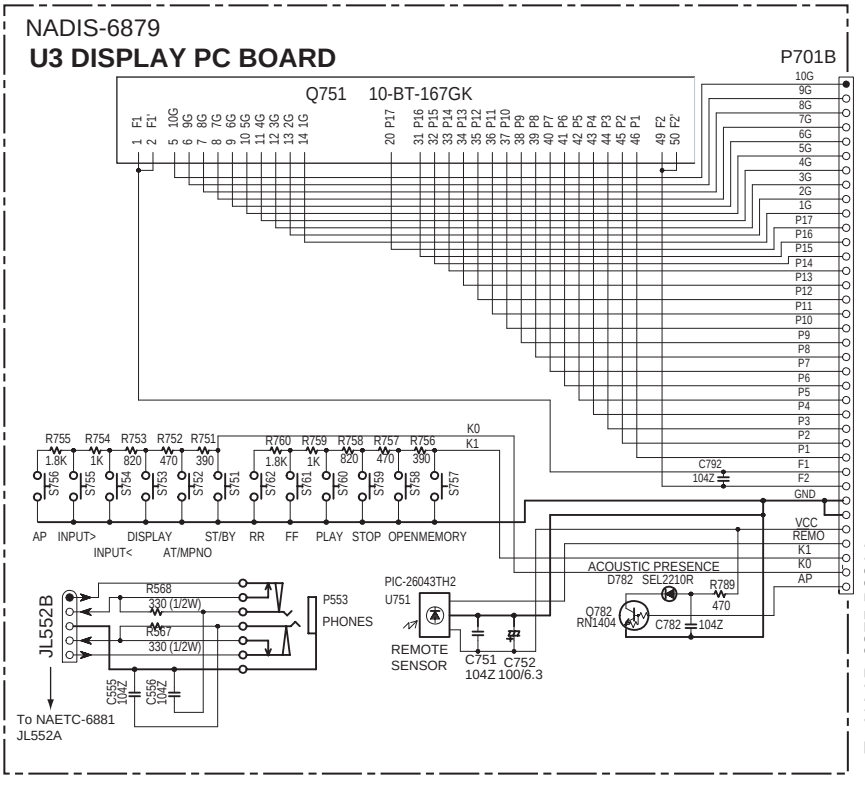
SCHEMATIC DIAGRAMS-1

AMPLIFIER AND POWER SUPPLY SECTION

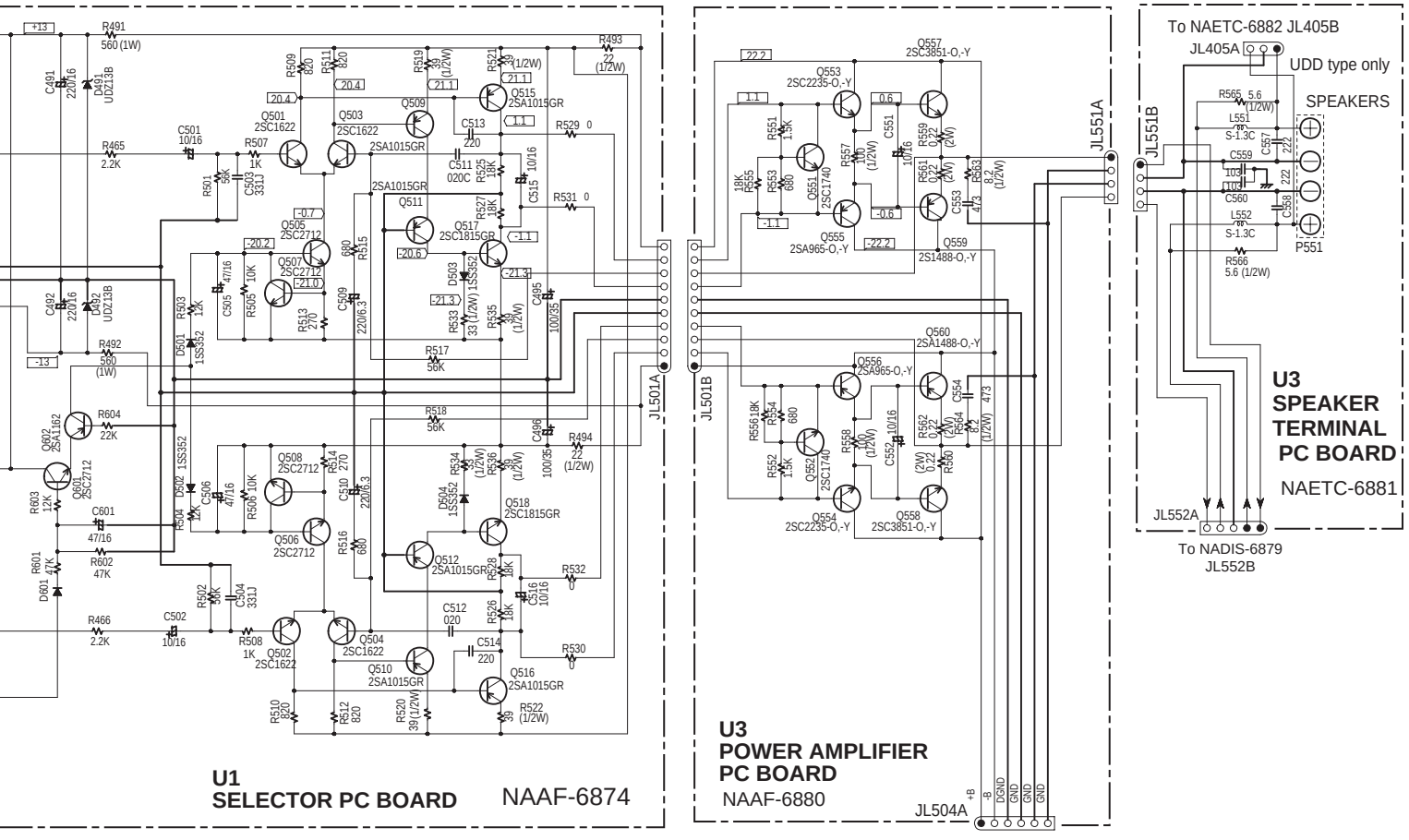


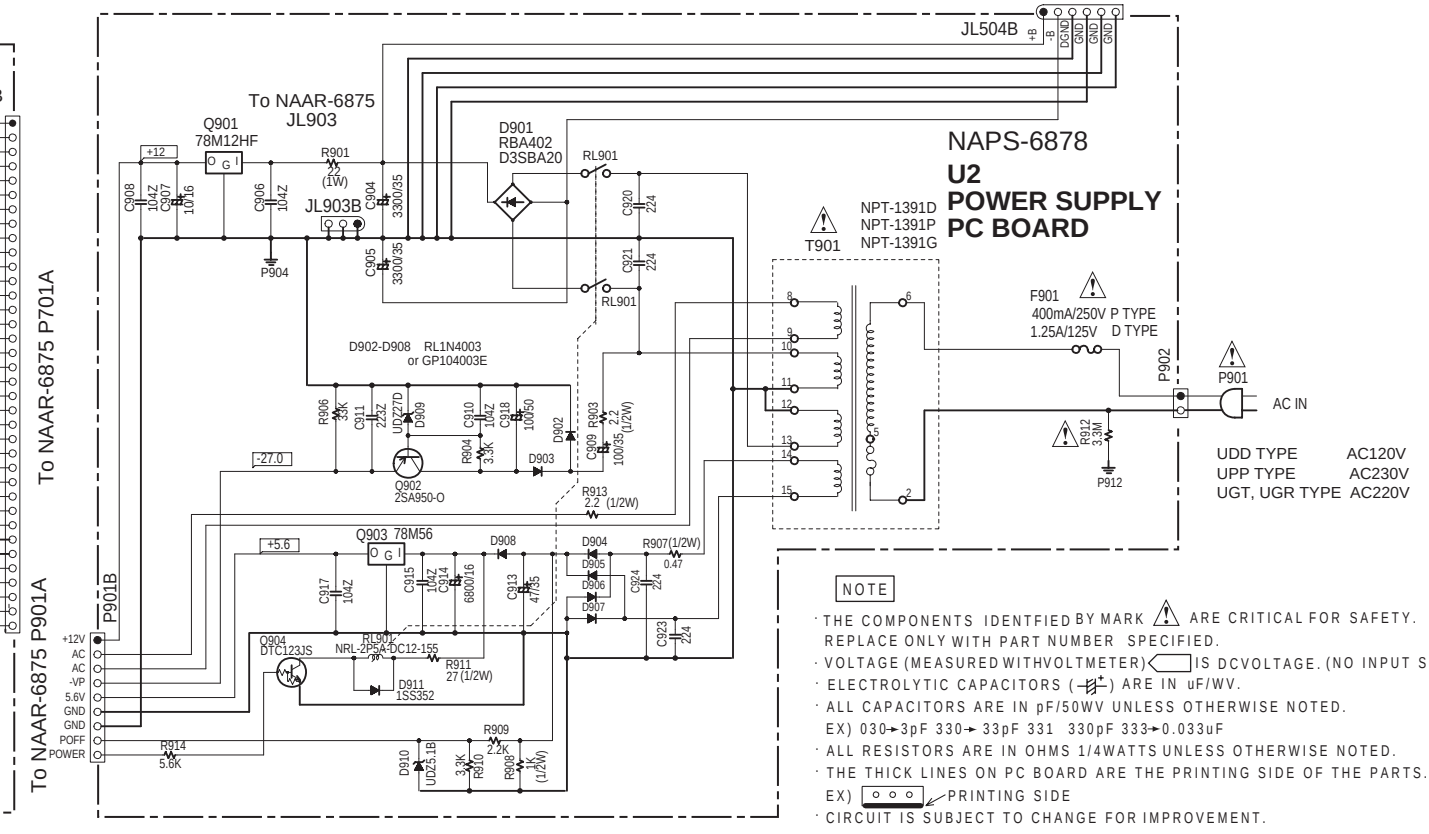






E F G H





NOTE

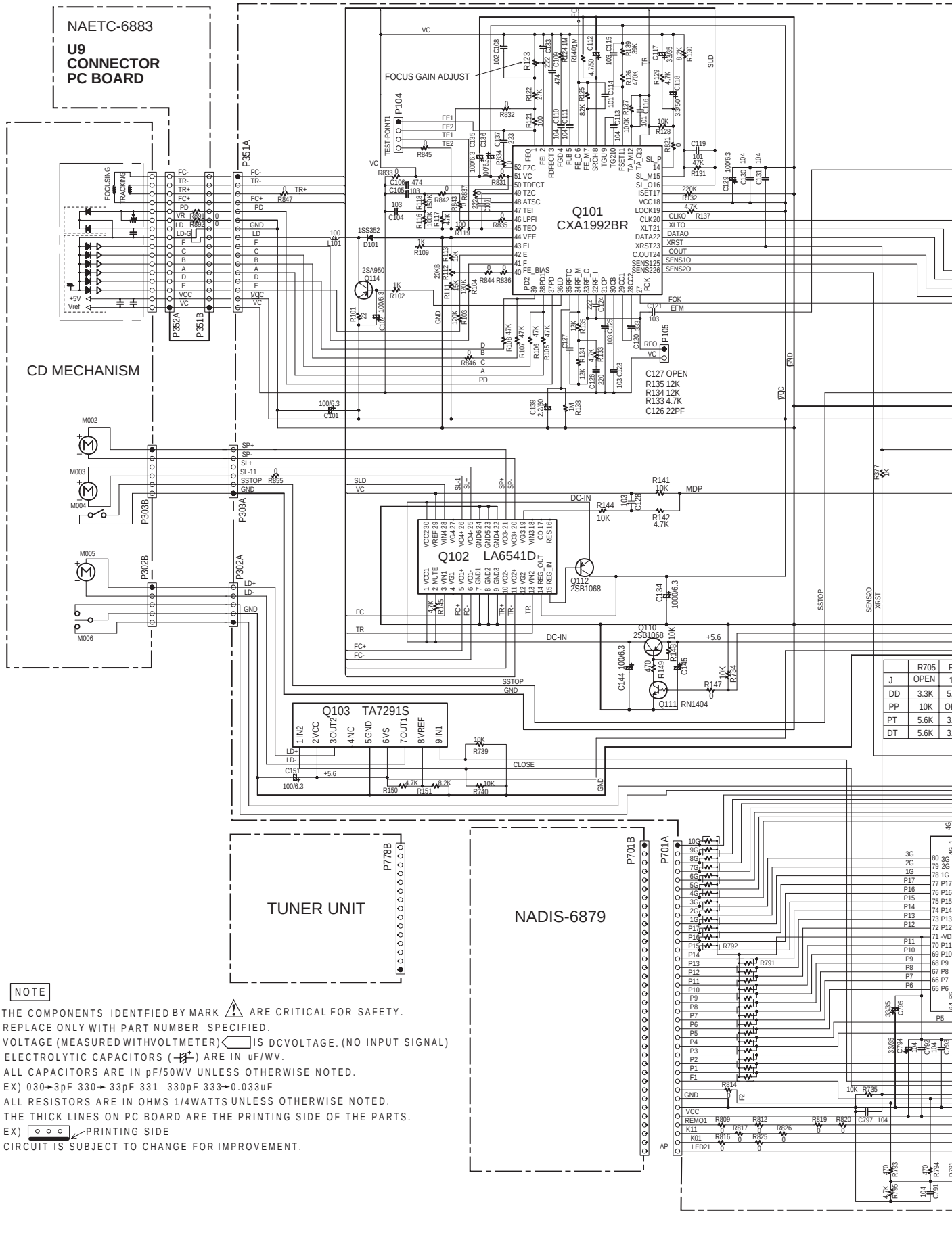
- THE COMPONENTS IDENTFIED BY MARK ⚠ ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITHVOLTMETER) ▭ IS DCVOLTAGE. (NO INPUT SIGNAL)
- ELECTROLYTIC CAPACITORS (⊣⊢) ARE IN uF/WV.
- ALL CAPACITORS ARE IN pF/50WV UNLESS OTHERWISE NOTED.
  EX) 030→3pF 330→ 33pF 331 330pF 333→0.033uF
- ALL RESISTORS ARE IN OHMS 1/4WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
  EX) ○○○ PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

A B C D

1 2 3 4 5

SCHEMATIC DIAGRAMS-2

(CD AND MICROPROCESSOR SECTION)



NOTE

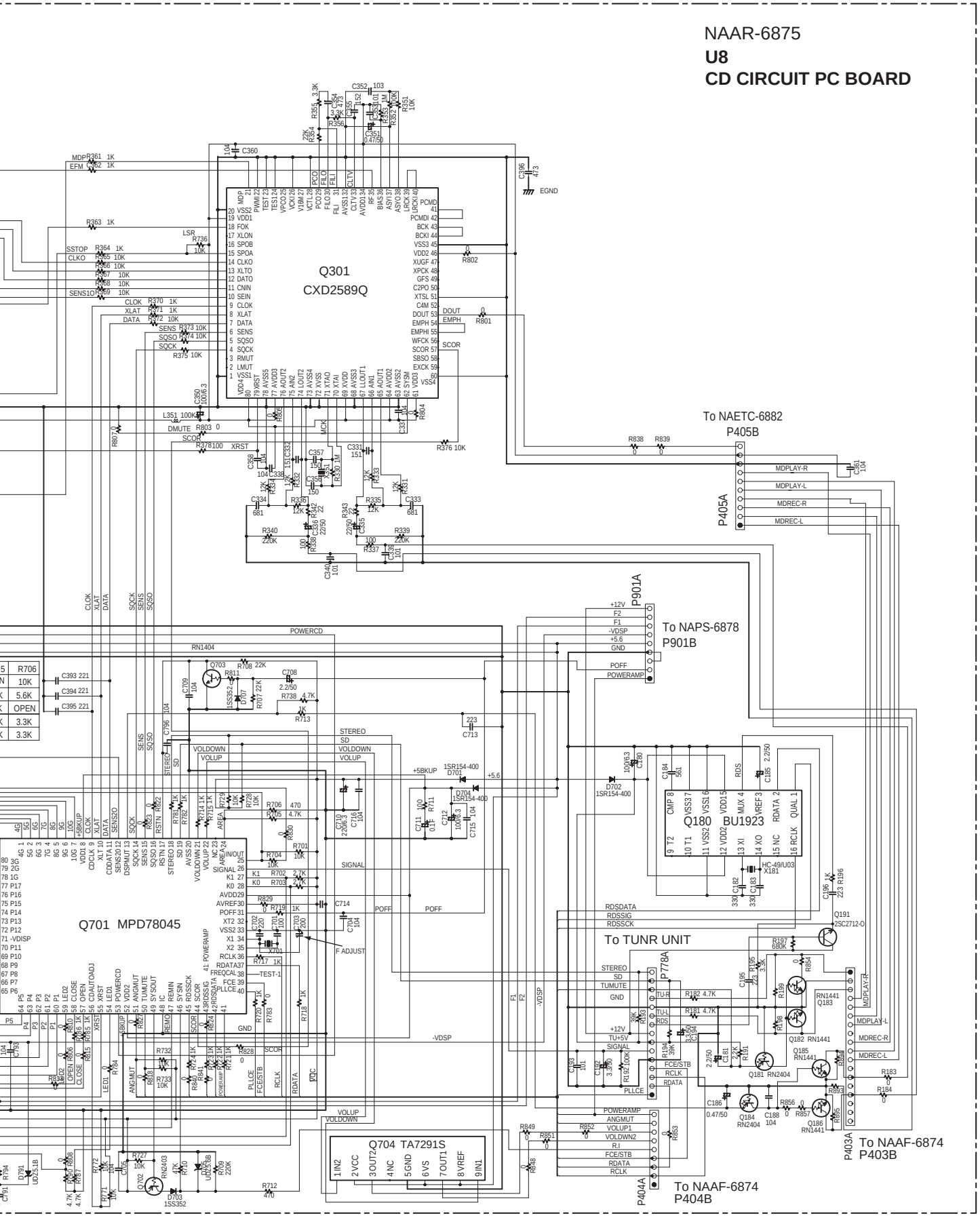
- THE COMPONENTS IDENTFIED BY MARK ⚠ ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH VOLTMETER) ⟨ ⟩ IS DC VOLTAGE. (NO INPUT SIGNAL)
- ELECTROLYTIC CAPACITORS (⊣⁺) ARE IN uF/WV.
- ALL CAPACITORS ARE IN pF/50WV UNLESS OTHERWISE NOTED.
  EX) 030→3pF 330→ 33pF 331 330pF 333→0.033uF
- ALL RESISTORS ARE IN OHMS 1/4WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
  EX) ○ ○ ○ ← PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

E F G H

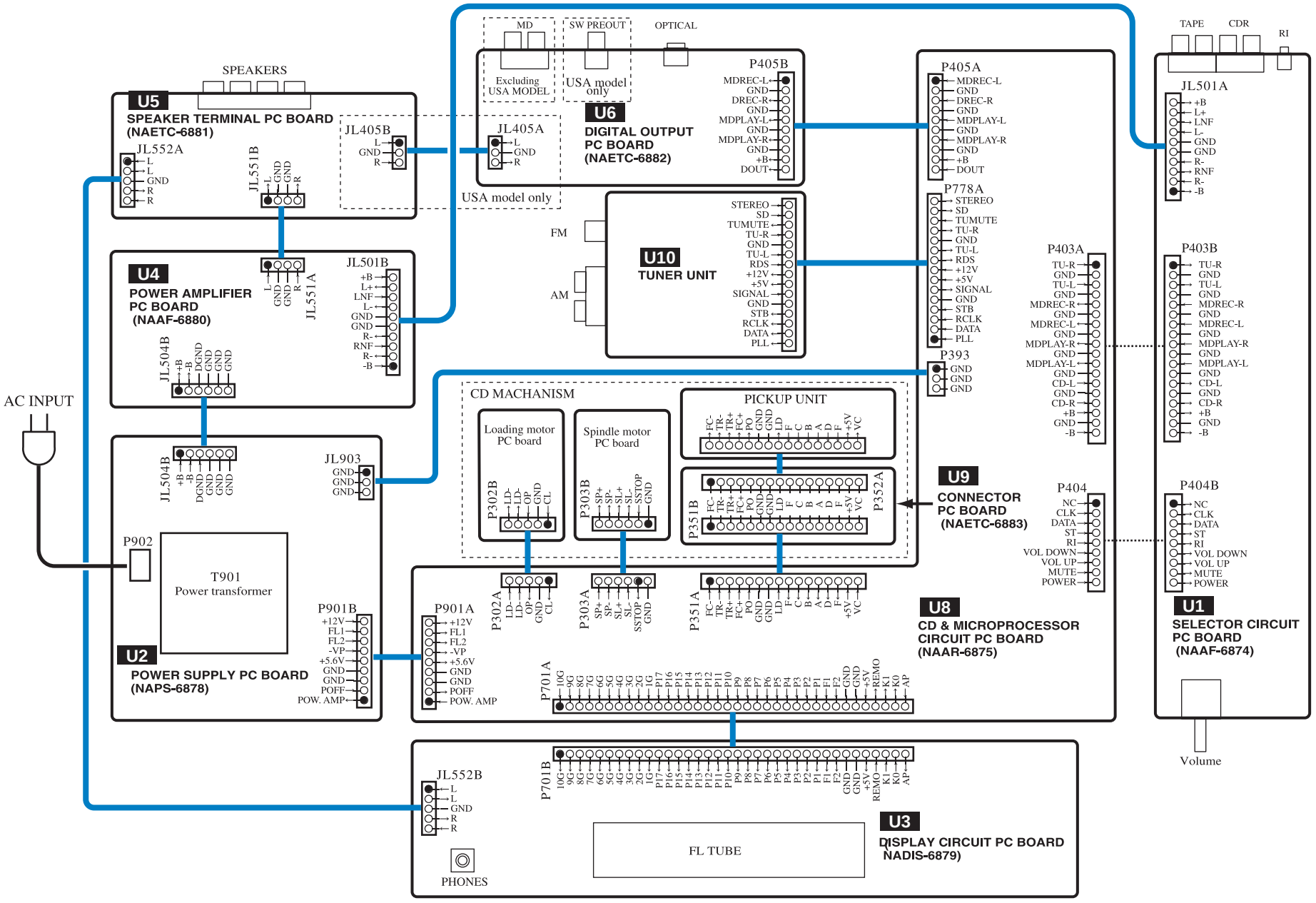
NAAR-6875

U8

CD CIRCUIT PC BOARD



PC BOARD CONNECTION DIAGRAM



PRINTED CIRCUIT BOARD PARTS LIST-1

U1:AUDIO PC BOARD (NAAF-6874)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q401	22241072	TC9273N-007
Q402	22240981R2	TC9162AF
Q403,Q404	22241383R2	NJM4565M-D
	Transistors	
Q405, Q406	2215410R2	RN1441
Q409, Q603	2214470R2	RN1402
Q501-Q504	2216156R2	2SC1622A-L
Q505-Q508	2213143R2	2SC2712-O
Q509-Q512	2211455 or	2SA1015-GR or
	2215975	KTA1266-GR
Q515-Q518	2211455 or	2SA1015-GR or
	2215975	KTA1266-GR
Q601	2213143R2	2SC2712-O
Q602	2214375R2	2SA1162-GR
	Diodes	
D491,D492	224491300R2	UDZ13B
D501-D504	223234R2	1SS352
D601	223234R2	1SS352
	Capacitors	
C409,C410	354742209	22uF, 16V, Elect.
C415-C418	371126834	0.068uF+/-5%, 50V, Plastic
C421,C422	371121534	0.015uF+/-5%, 50V, Plastic
C423,C424,C603	354780109	1uF, 50V, Elect.
C425,C426	371121544	0.15uF5+/-5%, 50V, Plastic
C429,C430	354742209	22uF, 16V, Elect.
C491,C492	354742219	220uF, 16V, Elect.
C493,C494	354741019	100uF, 16V, Elect.
C495,C496	354761019	100uF, 35V, Elect.
C501,C502	354741009	10uF, 16V, Elect.
C505,C506,C601	354744709	47uF, 16V, Elect.
C509-C510	354722219	220uF, 6.3V, Elect.
C515,C516	354741009	10uF, 16V, Elect.
	Resistors	
R427	5104333	N16RG100KBT25F, Volume
R491,R492	443625614	560ohm+/-5%, 1W, Metal oxide
R493,R494	443522204	22ohm+/-5%, 1/2W, Metal oxide
R495	443521024	1kohm+/-5%, 1/2W, Metal oxide
R496	443528214	820ohm+/-5%, 1/2W, Metal oxide
R519-R522	443523904	39ohm+/-5%, 1/2W, Metal oxide
R533,R534	443523304	33ohm+/-5%, 1/2W, Metal oxide
R535,R536	443523904	39ohm+/-5%, 1/2W, Metal oxide
	Jacks	
P400, P401	25045575	NPJ-4PDRW389
P402	25045581R0	HSJ1501-010010, RI Jack
	Sockets	
P403B	25051529	NSCT-18P1316
P404B	25051234	NSCT-9P1024
	Plug	
JL501A	25055631	NPLG-10P593

U2:POWER SUPPLY PC BOARD (NAPS-6878)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q901	222780125	78M12HF
Q903	222780565	78M56
	Transistors	
Q902	2211503 or	2SA950-O or
	2211504	2SA950-Y
Q904	2213640	DTC123JS
	Diodes	
D901	22380022F or	RBV402 or
	22380271F	D3SBA20
D902-D908	22380260 or	RL1N4003 or
	22380035	GP104003E
D909	224492700R2	UDZ27B
D910	224490510R2	UDZ5.1B
D911	223234R2	1SS352
	Capacitors	
C904,C905	354763329S	3300uF,35 V, Elect.
C907	354741009	10uF, 16V, Elect.
C909	354761019	100uF, 35V, Elect.
C913	354764709	47uF, 35V, Elect.
C914	3500173S	6800uF, 16V, Elect.
C918	354781019	100uF, 50V, Elect.
C920-C924	374722244	0.22uF+/-5%, 50V, Plastic
	Resistors	
R901	443622204	22ohm+/-5%, 1W, Metal oxide
R903,R913	453530224	2.2ohm+/-5%, 1/2W, Metal oxide
R907	453534794	0.47ohm+/-5%, 1/2W, Metal oxide
R908	443521024	1kohm+/-5%, 1/2W, Metal oxide
R911	443522704	27ohm+/-5%, 1/2W, Metal oxide
R912	431533355	⚠ 3.3Mohm+/-20%,1/2W, Solid <DD,DT>
	Relay	
RL901	25065607	NRL-2P5A-DC12-155 <DD,DT>
	25065598 or	NRL-2P3A-DC12-148 or
	25065597	NRL-2P8A-DC12-147 <PP,GR,GT,PT>
	Plug	
JL903B	25055624	NPLG-3P586
P901B	25055153	NPLG-9P137
P902	25055676	⚠ NPLG-2P632
	Socket	
JL504B	25050270	NSCT-6P98
	Fuse label	
F901A	29361919	T400MAL250V <PP,GR,GT,PT>
	Clamp	
P901C	27190608-1	UA-0 V0
	Heat sink	
Q903A	27160250	RAD-81
Q903B	82143010	3P+10FN(BC)

NOTE:
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NOTE : THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

PRINTED CIRCUIT BOARD PARTS LIST-2

U3:FRONT PC BOARD (NADIS-6879)

CIRCUIT NO.	PART NO.	DESCRIPTION
	FL Tube	
Q751	212141	10BT-167GK
	Remote sensor	
U751	241330	PIC-26043TE2
	Transistor	
Q782	2214490R2	RN1404
	LED	
D782	225381	SEL2210R-TP1
	Capacitor	
C752	353721019	100uF, 6.3V, Elect.
	Resistors	
R567,R568	443523314	330ohm+/-5%, 1/2W, Metal oxide
	Jack	
P553	25045396	LGT1516-0101, Head phone jack
	Sockets	
JL552B	25051089	NSCT-5P876
P701B	25052232	NSCT-36P2129
	Push switches	
S751- S762	25035699	NPS-111-S662
	Holder	
Q751A	4070210321000	FL Holder

U4:AMPLIFIER PC BOARD (NAAF-6880)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q551,Q552	2213284 or	2SC1740S-R or
	2215864	KTC3199-GR
Q553,Q554	2211653 or	2SC2235-O or
	2211654	2SC2235-Y
Q555-Q556	2211643 or	2SA965-O or
	2211644	2SA965-Y
	Capacitors	
C551,C552	355741009	10uF, 16V, Elect.
C553,C554	371124734	0.047uF+/-5%, 50V, Plastic
	Resistors	
R557,R558	443521014	100ohm+/-5%, 1/2W, Metal oxide
R559-R562	452732294F	0.22ohm+/-5%, 2W, Metal oxide
R563,R564	453530824	8.2ohm+/-5%, 1/2W, Metal oxide
	Sockets	
JL501B	25051094	NSCT-10P881
JL504A	25051110	NSCT-6P897
JL551A	25051088	NSCT-4P875

U5:SPEAKER PC BOARD (NAETC-6881)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Coils	
L551,L552	231176S	S-1.3C
	Resistors	
R565,R566	453530564	5.6ohm+/-5%, 1/2W, Metal oxide
	Sockets	
JL405A	25051087	NSCT-3P874 <DD>
JL551B	25051088	NSCT-4P875
JL552A	25055626	NPLG-5P588
	Terminal	
P551	25060299	NTM-4PDML230, Speaker

U6:DIGITAL OUTPUT PC BOARD (NAETC-6882)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Photo couplers	
U691	24120082	GP1FA550TZ
	Coil	
L691	231237K220R2	NCH-1477
	Capacitors	
C691	354741019	100uF, 16V, Elect.
	Plug	
JL405B	25055624	NPLG-3P586 <DD>
	Socket	
P405B	25051235	NSCT-10P1025
	Jack	
P406	25045567	NPJ-1PDBL382 <DD>
	25045575	NPJ-4PDRW389 <PP,DT,GR,GT,PT>

NOTE:
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<PP> : European model only
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<GT> : Asian model only
<GR> : Chinese model only

NOTE : THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

PRINTED CIRCUIT BOARD PARTS LIST-3

U8:CD PC BOARD (NAAR-6875)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q101	22241499R3	CXA1992BR
Q102	22241247	LA6541D
Q103	22240239	TA7291S
Q180	22241302	BU1923 <PP>
Q301	22241500R3	CXD2589Q
Q701	22241502R3	MPD78045FGF-119-3B9
Q704	22240239	TA7291S
	Transistors	
Q110,Q112	2212853	2SB1068-K
Q111,Q703	2214490R2	RN1404
Q114	2211504	2SA950-Y
Q181,Q184	2214550R2	RN2404
Q182,Q183	2215410R2	RN1441
Q185,Q186	2215410R2	RN1441
Q191	2213143R2	2SC2712-O <PP>
Q702	2214540R2	RN2403
	Diodes	
D101,D703,D707	223234R2	1SS352
D701,D702,D704	22380284R2	1SR154-400
D705	224490560R2	UDZ5.6B, Zener
D791	224490510R2	UDZ5.1B, Zener
	Coils	
L101,L351	231237K100R2	NCH-1475
	Crystals	
X181	3010321	HC-49/U034.332MHz
X351	3010308	HC-49/U0316.9344M
X701	3010261	HC-49/U03 4.19M10P
	Capacitors	
C102,C129,C135	355721019	100uF, 6.3V, Elect.
C104,C105,C115	374721034	0.01uF+/-5%, 50V, Plastic
C106,C109	374724744	0.47uF+/-5%, 50V, Plastic
C107,C124,C133	374722224	2200pF+/-5%, 50V, Plastic
C108	374721024	1000pF+/-5%, 50V, Plastic
C110,C111,C113	374721044	0.1uF+/-5%, 50V, Plastic
C112	355780479	4.7uF, 50V, Elect.
C117,C794,C795	355763309	33uF, 35V, Elect.
C118,C191,C192	355780339	3.3uF, 50V, Elect.
C120	374723334	0.033uF+/-5%, 50V, Plastic
C121,C123	374721034	0.01uF+/-5%, 50V, Plastic
C125,C128 ,C352	374721034	0.01uF+/-5%, 50V, Plastic
C134	354724719	470uF, 6.3V, Elect.
C136,C145,C151	355721019	100uF, 6.3V, Elect.
C137	374722234	0.022uF+/-5%, 50V, Plastic
C139,C181,C708	355780229	2.2uF, 50V, Elect.
C180,C350,C712	355721019	100uF, 6.3V, Elect.
C185	355780229	2.2uF, 50V, Elect. <PP>
C333,C334	374726814	680pF+/-5%, 50V, Plastic
C335,C336	355762209	22uF, 35V, Elect.
C351	355784799	0.47uF, 50V, Elect.
C354	374724734	0.047uF+/-5%, 50V, Plastic
C355	374721524	1500pF+/-5%, 50V, Plastic
C703	3060010	NTC-20P09, Trimming (Clock adjust)
C710	354721019	100uF, 6.3V, Elect.
C711	3000078	DX-5R5L104, Super capacitor

CIRCUIT NO.	PARTS NO.	DESCRITION
	Resistor	
R123	5210263	N06HR20KBC, Trimming resister
	Sockets	
JL903A	25051087	NSCT-3P874
P351A	25052212	NSCT-16P2109
P701A	25052232	NSCT-36P2129
P778	25052211	NSCT-15P2108
P901A	2002391815	NSAS-18P0666
	Plugs	
P104	25055045	NPLG-4P33
P105	25055038	NPLG-2P29
P302A	25055149	NPLG-5P133
P303A	25055150	NPLG-6P134
P403A	25055807	NPLG-18P763
P404A	25055705	NPLG-9P661
P405A	25055706	NPLG-10P662
	Terminal	
TP01	25060061	Terminal PC

U9:CONNECTOR PC BOARD (NAETC-6883)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Sockets	
P351B	25052249	NSCT-16P2146
P352A	25051796A	NSCT-16P1583

NOTE:
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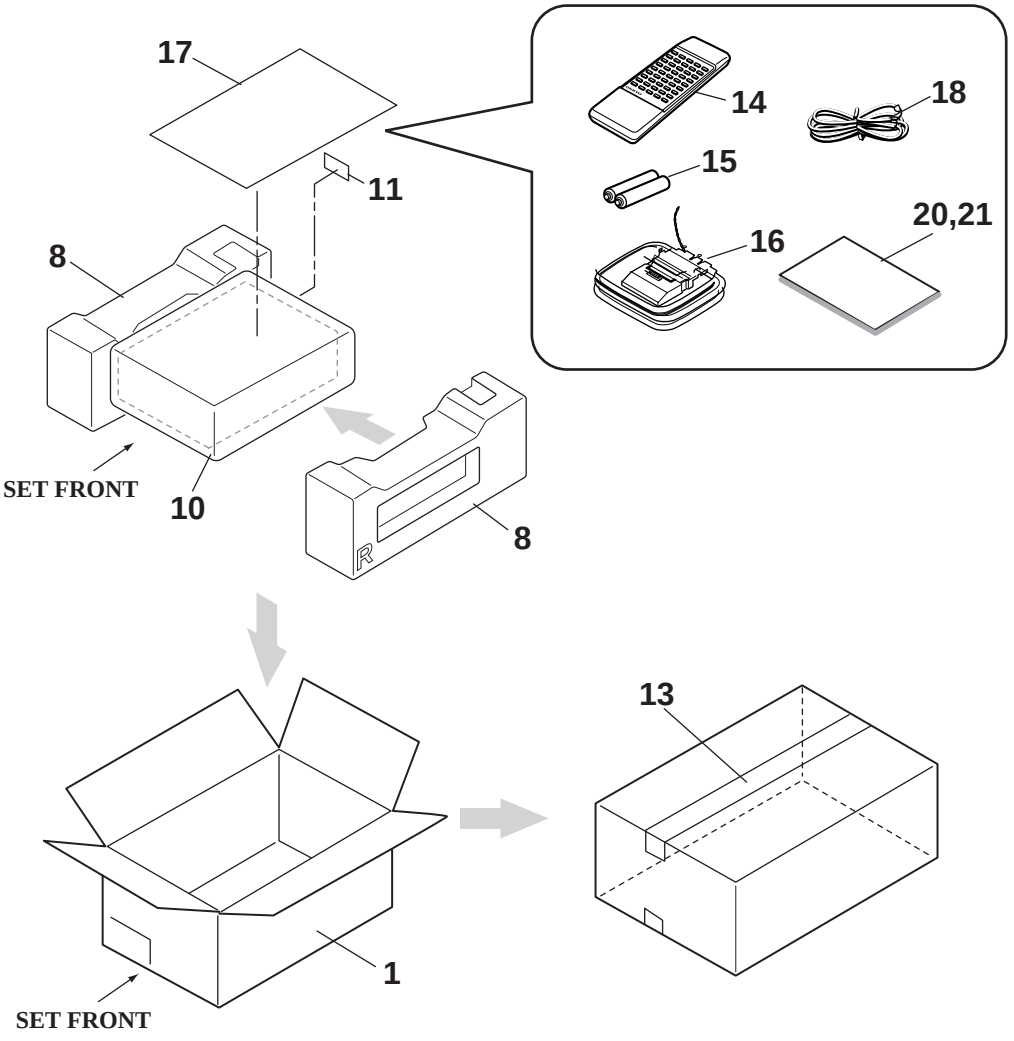
NOTE : THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

PACKING VIEW



PARTS LIST

REF.NO.	PART NO.	DESCRIPTION	REMARKS
1	6007210450000	BOX GIFT CR-305TX	
8	6230210504000	CUSHION SNOW EPS	
10	29095835	Sheet 0.515 x 650 x 550	
11	29110149	Tape	
13	29110141	PP Tape	
14	24140421	RC-421S, Remote controller	
15	3010054	Battery, UM-3	
16	232140	NMA-3057, AM Loop antenna	
17	29100097-1A	Poly bag 350 x 250	
18	292142	FM antenna	<DD>
	292116	FM antenna	<PP>
20	5707210600000	INSTRUCTION MANUAL E	
	5707210600010	INSTRUCTION MANUAL FSI	<PP>
	5707210600020	INSTRUCTION MANUAL GDSW	<PP>
21	26365090	Warranty card	<DD>

[NOTE]

<DD> : USA & Canadian model only

<PP> : European Model only

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